



NVDA

BASIC TRAINING FOR NVDA

eBook



NV Access

Empowering lives through
non-visual access to technology

Basic Training for NVDA

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Changes from earlier versions include:

- Updated Internet activities (reflecting changes in pages).
 - Updated document formatting topics.
 - Fixed a couple of keystrokes.
 - Updated Elements list to include listing form fields and buttons (NVDA 2017.4).
 - Updated with changes to combine settings dialogs into one dialog (NVDA 2018.2).
 - Braille is now tethered automatically (NVDA 2018.2)
 - Updated Kindle version to KFX format
 - Split Browsing the web (17 topics) into "Browsing the Web" and "Forms on the Web" (9 topics each)
 - Reworded "disabling single letter navigation" to "Overriding NVDA on web pages"
 - Fixed numbering of some activities
 - Updated Browsing the web to reflect changes in several web pages used in activities
 - Split "Selecting text" into two topics
 - Updated "NVDA Review Cursor Basics" to add more detail and extra activities
 - Updated review cursor copy behaviour to match NVDA 2016.3 behaviour
 - Small corrections and points reworded to improve clarity
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1 Introduction

This "Basic Training for NVDA" module covers the essentials of using Windows with NVDA. It is the first in a series of modules covering various aspects of using NVDA and Windows.

1.1 What is NVDA?

NVDA stands for Non-Visual Desktop Access. NVDA is a free "screen reader", a program which reads the text on the screen in a computerised voice. If used, a Braille display connected to the PC can also present information in Braille.

1.2 Goals

This module consists of the following sections:

- Getting started with NVDA
- Getting started with Windows
- Basic NVDA configuration
- Writing text and saving files
- Editing documents
- Document formatting
- Basic file management
- Multi-tasking
- Browsing the web
- Forms on the web
- NVDA review cursor basics
- Object navigation
- Configuring NVDA
- Advanced topics
- NVDA setup guide

Each section begins with goals and ends with related review activities. Within each section, every topic includes both an explanation, and a practical step-by-step activity.

1.3 Prerequisites

You must be comfortable typing and locating keys on a PC keyboard.

NVDA (and a braille display if required) should already be installed. The "[NVDA Setup Guide](#)" at the end of this module contains instructions to setup NVDA if needed.

You need to have access to a computer which meets the following minimum requirements:

- Windows version 7 through to Windows 10
 - Memory: 256 MB or more of RAM
 - Processor speed: 1.0 GHz or above
 - About 90 MB of storage space
 - Speakers or headphones
 - Supported braille display if braille output is desired
 - Access to the internet for the "Browsing the web" and "Forms on the web" sections.
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2 Getting Started with NVDA

The aim of this section is to introduce some of the basics of using NVDA.

It is assumed that NVDA has been setup to start when the computer starts. If NVDA is not already running, jump ahead to the "[Starting and stopping NVDA](#)" topic of this section first. Be sure to come back here after completing that topic.

Goals for this section:

- Understanding what the NVDA key is
- Using NVDA to tell the time and date
- Stopping speech
- Using input help to explore the keyboard
- Reading with a braille display
- Starting and stopping NVDA

2.1 The NVDA Modifier Key

Many general computer commands involve pressing several keys at once. These will be introduced throughout this module. Examples include pressing **shift** with a letter to type a capital letter or **control+s** to save work. When writing these, the plus sign, +, is used to show they are pressed as one keystroke. Hold down the first key, press the second, then let go of both keys. The first key is a *modifier key*. A modifier key changes how the second key behaves. **Shift**, **alt**, **control** and **Windows** are all modifier keys.

NVDA uses an NVDA Modifier key (called the "NVDA key" or just "NVDA"). This key is either one of the **insert** keys or the **caps lock** key, depending on how NVDA is set up. If using NVDA on a desktop, it is likely that **insert** is set as the NVDA key. If using NVDA on a laptop, it may use the **caps lock** key as the NVDA modifier key. Check with your technician or trainer if you are unsure which key is the NVDA key.

The NVDA key does not do anything on its own. Commands that use the NVDA key will have another key pressed while holding the NVDA key down. For example, to have NVDA tell you the current time, press **NVDA+f12**. That is, hold down the **NVDA Modifier key**, then with that key held down, press the **f12** key. Finally, release both keys. The **f12** key is at the top of the keyboard, in a row of function keys above the number row.

Let's read the time now. Remember that the NVDA key will either be the **insert** key (usual on desktops) or **caps lock** (often on laptops).

Activity: Reading the time

1. Make sure the PC is on, and NVDA is running.
2. Hold down the **NVDA** key. NVDA should not say anything at this point.
3. Press the **f12** key, then let go of both keys. NVDA should read the time; for instance, "2:39 PM".
4. If using a braille Display, read the time on it. The time is only displayed for a few seconds.
5. Repeat steps 2 - 4 several times to make sure you are comfortable using the NVDA modifier key.

2.2 More on the NVDA Modifier Key

As well as reading the time, NVDA can read the date. To make NVDA read the date, press **NVDA+f12** twice quickly. The easiest way is to hold down the **NVDA** key, press the **f12** key twice, before finally releasing both keys.

Some programs or commands may use the NVDA modifier key for their own use. For instance, **caps lock** sets the keyboard to type in all capital letters. If needed, press the NVDA modifier key twice quickly to use it for its non-NVDA purpose.

Let's read the date now:

Activity: Reading the date

1. Hold down the **NVDA** key.
2. Press the **f12** key twice quickly.
3. Let go of both keys. NVDA should read the date; for instance, "Sunday 1 January 2017". If NVDA reads the time again, the gap between the two presses of **f12** was too long.
4. If using a braille Display, read the date on it. The date is only displayed for a few seconds.
5. Practise steps 2 - 4 until confident reading the date.

2.3 Stopping Speech

At any time when NVDA is speaking, press the **control** key to stop it speaking. This can be useful if needing to interrupt NVDA, when it is reading a large block of text. Once speech is stopped with **control**, it cannot pick up where it left off. A command to read text (such as **NVDA+f12** twice to read the date) needs to be given to start reading again.

Some synthesizers (including eSpeak NG, which comes with NVDA, and the Windows OneCore voices, which come with Windows 10) can pause speech. To pause speech, press **shift** while NVDA is speaking. Press **shift** again to pick up exactly where NVDA stopped speaking. The advantage of this is that restarting after pausing picks up exactly where the speech stopped. Using the one command of **shift** is also easier to remember when restarting speech.

Let's read the date again, and use **control** to stop the speech and **shift** to pause:

Activity: Stopping speech

1. Press **NVDA+f12** twice quickly.
2. Release both keys.
3. Press **control** to stop NVDA before it finishes reading the date.
4. Press **NVDA+f12** twice quickly.
5. Release both keys.
6. Press **NVDA+f12** twice to read the date again, then press **shift** to stop NVDA speaking.
7. Press **shift** again to have NVDA resume speaking the date.
8. Repeat this activity until confident stopping speech.

2.4 Input Help Mode

NVDA's Input Help mode can be used to learn the layout of the keyboard. While in Input Help mode, NVDA reports the name of each key pressed. If there is an NVDA command associated with a key press, NVDA will also report what that command does. While in Input Help mode, the keys will not perform any function. It is safe to press any key or key combination to find out its name or what it does.

The exception to this is **numlock**. Pressing **numlock** while input help is on will toggle numlock. "Toggle" means to turn the feature from off to on, or from on to off. Numlock will remain after Input help is turned off. Numlock should be left off, as NVDA uses the number pad in its "off" state for many commands. The "0 or Insert" key on the number pad is also the default NVDA modifier key.

"Default" means that is what it will be unless you change it. The NVDA modifier key can be changed, but unless someone does this, it will be the **insert** key.

To turn on Input Help mode, press **NVDA+1**. That is, hold down the **NVDA** key and press the number **1** on the number row, above **q**. Then, release both keys. Press any keys, or set of keys, to explore the keyboard. Once finished, press **NVDA+1** again to turn input help off.

There are two of some keys on most keyboards, for instance **shift** or **control**. Input help will report whether the left or right key is pressed.

Let's practice using input help now:

Activity: Using input help mode

1. Press **NVDA+1**. NVDA should report "Input Help on".
2. Press **NVDA+f12**. NVDA reads: "NVDA+f12. If pressed once, reports the current time. If pressed twice, reports the current date".
3. Press the left **control** key. NVDA reports: "Left control".
4. Press the **NVDA** key. NVDA reports that it is the NVDA key.
5. Press the **NVDA** key twice quickly. NVDA reports the original function of the key: "caps lock" or "numpad insert".
6. Explore the keyboard. Particularly press keys you are less familiar with and see what NVDA reports.
7. Once you have finished pressing keys, turn off Input Help mode by pressing **NVDA+1**. NVDA reads "NVDA+1. Input Help off".

2.5 Reading with a Braille Display

A braille display is a separate physical device which has "refreshable" braille cells. These braille cells automatically change what they show as NVDA reads new information. Reading braille is an excellent way of retaining information while reading. A Braille display is also a valuable tool when editing text on the computer. If you do not have a braille display, you can skip to the next section, "[Starting and Stopping NVDA](#)".

Information NVDA reads out may not always all fit on a braille display at once. "Scroll" or "pan" controls on the braille display enable moving through longer text.

Braille displays have a limited number of cells. To minimise scrolling, text presented on a braille display may not be as verbose as that read aloud. Often common computer terms are shortened. These are noted throughout this module.

Some braille displays have "previous line" and "next line" controls. These navigation controls avoid needing to go back to the PC keyboard to move through text.

Please refer to your braille display documentation to find features available on your display.

Activity: Using a braille display

1. Press **NVDA+1** to turn Input help on.
2. Read the information on the braille display (It should say "Input Help on").
3. Press **NVDA+f12**. Use the display's scroll controls to read the time and date instructions.
4. Press any other keys to have NVDA report them both audibly, and on the Braille display.
5. When finished, press **NVDA+1** to turn Input Help off.

2.6 Starting and Stopping NVDA

Most users will have NVDA start automatically when the computer starts. It is still important to know how to start or stop NVDA manually.

To start NVDA, press **control+alt+n**. This uses three keys but works the same as the commands with two keys. Hold down **control** and **alt** together, press the letter **n**, then let all three keys go. If NVDA is already running, this will restart NVDA.

There are two **alt** keys and two **control** keys on most keyboards. As mentioned, these are "modifier keys" as they change the behaviour of other keys. If the key pressed with them is on the right half of the keyboard, use the left hand to press the modifier(s). To start NVDA, use your left hand to press **control** and **alt**, and your right hand to press **n**.

To quit NVDA, press **NVDA+q**. NVDA will ask "What would you like to do?". To quit, press **enter**. Other options include "restart" or "restart with add-ons disabled". To restart NVDA, press **down arrow** to move to the desired option, then press **enter**. NVDA restarts.

When NVDA starts, it plays four musical notes, starting low and getting higher. If using a Braille display, it will read "NVDA Started".

The first time NVDA starts, it displays a welcome screen. One of the options on this screen is a checkbox to set whether this screen appears every time NVDA starts. If this is checked, then the NVDA welcome screen will be displayed each time NVDA starts. To close the welcome screen, press **enter**. To stop this screen appearing again, uncheck "Show this dialog when NVDA starts". Press **spacebar** to uncheck it and **enter** to close. The NVDA welcome screen is an example of a "dialog". A dialog or "dialog box" is part of

a program which appears on screen in its own box. A dialog usually has one purpose, often to ask the user a question or configure program options.

When NVDA quits, it plays four musical notes, starting high and getting lower.

Activity: Starting NVDA

1. Press **control+alt+n**. With NVDA already running, the exit sound plays, and then the NVDA startup sound. Remember, the exit sound goes from high to low and the startup sound goes from low to high.
2. Press **control+alt+n** again. Listen for the exit sound and then the startup sound again.

2.7 Getting Started with NVDA Review

If you jumped ahead to learn how to start NVDA first, be sure you have also done the rest of the topics in this section.

This section covered starting NVDA and beginning to use it. Some of the key concepts included:

- The NVDA modifier key
 - What it is used for
 - Which keys can be the NVDA key
 - How the NVDA key is used
 - Reading the time and date
- Stopping and pausing speech
- Using Input Help
 - How to turn Input Help on and off
 - How to use Input Help to explore the keyboard
- Reading with a braille display
 - How to scroll the display backward and forward.
- Starting and stopping NVDA
 - How to start or restart NVDA
 - How to exit NVDA

Activity: Getting started with NVDA review

1. Turn on Input Help.
2. Press **NVDA+f12** to have NVDA explain what this key combination does.
3. If using a braille display, use its panning keys to read this information.
4. Turn off Input Help.
5. Read the date again and have NVDA stop speaking while reading.
6. Restart NVDA.

3 Getting Started with Windows

The aim of this section is to get you started using Windows itself. It also builds upon the skills we have started to develop.

Goals for this section:

- Familiarity with the Start menu
- Understanding system focus
- Opening a program
- Reporting the name of the current program
- Closing a program

3.1 The Start Menu

The Start menu gives easy access to a list of often used programs and settings. In Windows 8 it takes up the whole screen and is called "Start screen". In other versions of Windows, it takes up the lower left of the screen.

To open the Start menu, press the **Windows key** on your keyboard. A full-size keyboard has one each side of the spacebar, between the **control** and **alt** keys. It often has an image of a Windows logo flag on it.

With the Start menu open, you can type the name of a program, file or setting. You can also use the **arrow keys** to move around the items. To start the selected item, press **enter**. To close the Start menu without starting anything, press the **Windows key** again.

As you move through the Start menu, NVDA will announce each item as you come to it. If you are using a braille display, it will display the current item.

Activity: Exploring the Start menu

1. Press the **Windows key** to open the Start menu.
2. Press the **arrow keys** to move to the various items and sections of the Start menu. NVDA will read each item as you move to it (If using a braille display, each item will be displayed).
3. Press the **Windows key** again to close the Start menu without choosing anything.

3.2 The System Focus

The "focus" or "system focus" is the item which can currently be interacted with. While moving around the Start menu in the previous activity, NVDA read out each item. The item NVDA last read out was the one which currently had focus. Pressing **enter** when on any item would have activated, or started that item, rather than any other.

NVDA can report the item which currently has focus by pressing **NVDA+tab**. That is, hold down **NVDA**, press the **tab** key, then let go of both keys.

This works anywhere on the computer, but we'll practise with the Start menu again in the next activity:

Activity: Reporting the focus

1. Press the **Windows** key to open the Start menu.
2. Use the **arrow** keys to move around the Start menu. Keep in mind that this moves the focus.
3. Press **NVDA+tab** on several items to confirm the item which currently has focus.
4. If using a braille display, read the information on it. Use its pan controls if needed to read the full item name.
5. Press **Windows** again to close the Start menu.

3.3 Searching for and Opening Programs

As well as using the Start menu to access commonly used items, you can also search for any program or file to open. A "file" can be anything: a photograph, a song, a "document" (of text you have written).

For this section, we'll use WordPad, which comes with Windows. You can write documents such as letters, shopping lists or stories with WordPad.

You may also have "Microsoft Word" which has more features than WordPad. We are using WordPad as it is installed as part of Windows whereas not everyone will have Microsoft Word.

A later module available from NV Access is entirely devoted to Microsoft Word. The "Microsoft Word for NVDA" module builds upon the document editing skills covered in this module.

One way to open WordPad is to type its name into the Start menu.

As each letter is typed, a list of matching items (programs, files and settings) appears. It may not be necessary to type the whole name. If there are several similar results, use the **up** and **down** arrow keys to move through this list of results. Press **enter** to open the selected item. In Windows 10, a sound is played to indicate that results or suggestions are available.

Activity: Opening WordPad

1. Press the **Windows** key to open the Start menu.
2. Type *wordpad*.
3. Press **enter**. This will open WordPad and NVDA will announce "Document - WordPad". Leave WordPad open; we'll use it in the next activity.

3.4 Reporting the Title of the Current Window

In the previous activity, when WordPad opened, NVDA read "Document - WordPad". "Document" is the name WordPad uses when the file hasn't been saved (which is covered later). Many programs state both the program's name and the file it has open. Together this is called the "title" of the current "window".

While only one program is active at any time, multiple programs may be open and even visible at once. Many low vision users prefer having the current program take up the full screen. Some fully-sighted users like having each program take up only part of the screen. Several programs can appear at once, showing relevant information in each. This is where the concept of "windows" comes from. NVDA works the same regardless of whether a program is running full screen, or in a window.

To read the title of the active window at any time, press **NVDA+t**. That is, hold down the **NVDA** key, press **t**, then let go of both keys. This can be useful if you leave your computer and then come back to it. If using a braille display, it will display the title information as well.

Last activity, WordPad was opened. Let's read the title of the current window and confirm that the focus is still in WordPad.

Activity: Reporting the title of the current window

1. Press **NVDA+t** to read the title of the current window. NVDA will read "Document - WordPad". If it does not, go back and do the previous activity again.
2. Press the **Windows key** to open the Start menu.
3. Press **NVDA+t** to read the title now. With the Start menu open, WordPad is no longer the current program. Remember to read the output on the braille display as well if using one.
4. Press the **Windows key** to close the Start menu. NVDA should announce that the focus is back in WordPad.
5. Press **NVDA+t** to confirm that WordPad is the active window. If using a braille display it will also display the title information.

3.5 Difference Between Program Title and Focus

In the previous activity, **NVDA+t** was pressed to read the WordPad title. Earlier, **NVDA+tab** was used to report the item which had focus in the Start menu. While both report what is active, it is important to know the difference between them.

NVDA+t reads the title and reports the name of the program which has focus and what file is open.

NVDA+tab reports the current item which has focus, and what type of item it is. In the Start menu, as well as reporting the name of the item, **NVDA+tab** read "List item". The Start menu is a list, and each item in the Start menu is an item in that list.

When **NVDA+tab** is pressed in WordPad, it should indicate the focus is in a "Rich Text Window, edit, multi-line". As well as being able to write more than one line of text, the size or colour of the text can be changed, or images added. This is known as "rich" text. In WordPad, the text itself is not static, it can be edited by the user.

Activity: Reading window title and focus.

1. Press **NVDA+t** to read the title. NVDA will read "Document - WordPad". If it does not, go back and do the previous activity again.
2. Press **NVDA+tab** to read the current item which has focus. NVDA will read "Rich text window, edit, multi-line focused, blank".
3. If using a braille display, confirm these two commands with the braille display.

3.6 Closing WordPad

Once finished using a program, it is a good idea to close it. Closing programs reduces the risk of losing a file which hasn't been saved when turning off the PC. Having only programs in use open also keeps the computer running as fast as possible.

To close a program, press **alt+f4** (Hold down the **alt** key, press the **f4** key, then let both keys go). Because **f4** is on the left half of the keyboard, it is suggested to use the right **alt** key.

We'll come back and write in WordPad later, but for this activity, let's practise closing it. If you typed anything into WordPad, we won't save it this time.

Activity: Closing WordPad

1. Press **NVDA+t** to ensure WordPad is the active window.
2. Press **alt+f4** to close WordPad.
3. If anything has been typed into WordPad, a dialog will appear, asking: "WordPad dialog, do you want to save changes to document?". In this case, press the letter **n**.

3.7 Getting Started with Windows Review

This section covered some of the key Windows concepts used when getting into and out of programs:

- The Start menu
 - Opening the Start menu
 - Navigating around the Start menu
 - Dismissing the Start menu
 - Using Search from the Start menu
- The System Focus
 - Understanding the System Focus
 - Know how to have NVDA report the currently focused control
 - Using a braille display to Read the focused control
- Searching for and Opening programs using the Start menu
- Identifying the current program
 - Having NVDA Report the name of the current program
 - Understanding the information given with the name of the program
- Closing a program

Activity: Getting Started with Windows Review

1. Open the Start menu.
 2. Use search to find and open WordPad.
 3. Read the title.
 4. Have NVDA report the item which currently has focus.
 5. Close WordPad without saving.
 6. Open the Start menu and find an item on it.
 7. Read the title and focus information.
 8. Close the Start menu without opening anything.
-

4 Basic NVDA Configuration

The aim of this section is to become familiar with some of the options available in the NVDA menu. Setting these to match personal preferences can make NVDA much easier to use. This section also introduces dialog boxes and practises navigating around menus.

Goals for this section:

- Understanding menus
- Navigating the NVDA menu
- Exploring dialog boxes and controls
- Adjusting NVDA voice settings

4.1 The NVDA Menu

Menus are commonly used to select an item or option from a list. The Start menu is an example, used in the last section, which provides access to programs on the computer. NVDA also has a menu which is used to access many of the options available for NVDA.

Some menu items start a program or feature directly. Pressing **enter** on the programs in the Start menu, for instance, launches them.

Some items have sub-menus of their own. Several of NVDA's menu items open sub-menus. Selecting "Help" opens a sub-menu with useful resources. These include a "Command Quick Reference" of NVDA keystrokes and "What's New" in the latest version.

There are several keys used to interact with menus:

- The **up** and **down** arrow keys move through the list of items
- **enter** launches the program or feature which has focus
- If the focus is on a sub-menu, **enter** or the **right** arrow will open it
- **escape** closes the current menu or sub-menu
- In some menus, the first letter of an item, for instance, **h** for "Help" may jump directly to the item

- If using a braille display, the routing key above an item can be used to activate it

On a braille display, the word "menu" is shortened to "mnu". Similarly, "sub-menu" is shortened to "submnu".

To open the NVDA menu, press **NVDA+n**. Let's explore the NVDA menu now:

Activity: Exploring the NVDA menu

1. Press **NVDA+n** to open the NVDA menu. NVDA reads "NVDA Menu".
2. Press the **down** arrow key to move through the items. NVDA reads the name of each item. NVDA also says the letter which can be used to jump directly to the item, and if the item has a sub-menu, NVDA reads "sub-menu".
3. Notice once on the bottom item "Exit", pressing **down** arrow again jumps back to the first item.
4. Move to the *Help* item. NVDA announces "Help sub-menu, H".
5. Press the **right** arrow to open the sub-menu.
6. Use the **up** or **down** arrows to explore the sub-menu.
7. Press **escape** to close the sub-menu. NVDA reports the focus is back on the **Preferences** sub-menu.
8. Press **escape** again to close the NVDA menu.

4.2 The NVDA Settings Dialog

NVDA's Preferences sub-menu contains options which affect how NVDA behaves. The first item in NVDA's preferences menu is "Settings". This option opens a "dialog" box where most of the options for configuring NVDA can be set. A dialog box (displayed as "dlg" on a braille display) usually only takes up part of the screen visually. Dialog boxes are commonly used to select program options.

When an item is chosen which opens a dialog box, NVDA's menu closes.

NVDA's settings dialog box contains two main sections. When opening the settings dialog from the NVDA menu, the focus is on a list of settings categories. The first category, "General" is selected. Press the **up** or **down** arrows to move the focus and select one of the other categories. As the focus moves, NVDA reports the newly selected item, and its position in the list.

NVDA's settings categories list slightly different to a menu. Press **tab** to move the focus to the first option within the currently selected category. Press **tab** to move through the options in that category in order. Press **shift+tab** to move backwards through the options. In the previous activity, **escape** was used to close NVDA's menu without selecting anything. **Escape** can also be pressed to close NVDA's settings dialog without making any changes.

Let's explore NVDA's settings dialog now.

Activity: The NVDA Settings dialog

1. Press **NVDA+n** to open the NVDA menu.
2. "Choose" the *Preferences* item. That is, Press the **down** arrow until the focus is on *Preferences*, then press **enter** to open the sub-menu.
3. Press the **down** arrow to find *Settings*.
4. Press ENTER to open the Settings dialog. NVDA's menu closes when the settings dialog opens. NVDA reports that the focus is on the "General" category.
5. Press the **down** arrow to move through the different categories. NVDA will stop reading after the last category.
6. Press the **up arrow** to move back through the categories to "General". Note that NVDA announces not only the name of the selected category but also its location in the list.
7. Press **tab** to move to the first item in the General settings category.
8. Press **tab** several times to move through options in the General settings category.
9. Press **escape** to close the dialog without making any changes.

4.3 NVDA Speech Settings

In the previous activity, the **arrow keys** moved the focus around the menu. Most menus also contain shortcuts called "hotkeys". Hotkeys are a way to jump directly to an item on the current menu by pressing a letter. After pressing **NVDA+n** to open the NVDA menu, pressing **p** opens the Preferences sub-menu. From the preferences sub-menu, **s** can be pressed to open the settings. The hotkey for each item is reported after the item name when using the **arrow** keys to navigate.

One category in NVDA's settings dialog is "Speech". The speech settings control how NVDA sounds when reading information aloud. The first option in this category is "synthesizer". When NVDA wants to read text aloud, it sends the text to the synthesizer. It is the synthesizer which converts the text into audible speech. The other settings on this screen affect how the synthesizer behaves. Some synthesizers can pronounce things in various languages or accents. Some synthesizers are more human sounding or have different male and female voices.

The name of the currently selected synthesizer is in a "Read-only edit". Despite the name "edit", the contents cannot be changed directly by the user because it is "read only". With the focus on this control, the name of the current synthesizer can be read.

Select a synthesizer first, as this choice affects the other speech options available. Setting the synthesizer requires activating a "button". A button (braille abbreviation: "btn") is a control in a dialog which does something. In this case, the button opens a second dialog to choose a synthesizer. Press **enter** when the focus is on a button to activate it. Using a braille display, the routing control can be used on a button to activate it.

There are several other buttons on the Settings dialog. An "OK" button accepts any changes made and closes the dialog. A "Cancel" button closes the dialog without making any changes to settings. An "Apply" button makes any changes selected and leaves the dialog open. Unless another button is selected, the "OK" button is the "default". That is, if

the focus is on any control other than a button when **enter** is pressed, the "OK" button will be activated.

The default button is usually the one least likely to lose data. Being able to press **enter** to activate the OK button and save changes is also useful in large dialog boxes. Once the desired options are set, press **enter**. The dialog box closes, saving the changes, without navigating the rest of the settings. Press **escape** to activate the "cancel" button. Cancel closes the dialog box without saving any changes made.

Let's open the settings dialog and navigate to the synthesizer dialog.

Activity: Opening NVDA synthesizer settings

1. Press **NVDA+n** to open the NVDA menu.
2. Press **p** to open the *Preferences* sub-menu. The focus starts on the "Settings" menu item.
3. Press **enter** to open the "Settings" dialog. The focus starts on the list of categories, with the "General" category selected.
4. Press the **down** arrow to the "Speech" option.
5. Press **tab** to move to the first item in the Speech category. NVDA will read the current synthesizer.
6. Press **tab** again to move to the "Change..." button.
7. Press **enter** to activate the button and open the Synthesizer dialog. NVDA reports that the focus is in the Synthesizer dialog, on the synthesizer combo box. The name of the current synthesizer is reported.
8. Leave the dialog open; we shall explore it in the next activity.

4.4 Exploring the Synthesizer Dialog

The Synthesizer dialog contains a new type of control, a combo box. Combo boxes (braille abbreviation: "cbo") work like menus. Press the **up** and **down** arrows to move through options one by one or press the first letter to jump directly to an item.

The Synthesizer dialog contains three combo boxes:

- Synthesizer
- Output device
- Audio ducking mode

The synthesizer combo box is used to choose a speech synthesizer. NVDA comes with eSpeak NG. Windows 10 comes with "Windows OneCore Voices". Windows 7 and later comes with a synthesizer called "Microsoft Speech API Version 5". Your computer may have others. From the NV Access web page, other third-party synthesizers are available. There is a link in the NVDA Setup Guide at the end of this module, in a topic on setting up synthesizers.

The output devices available will depend on the sound device in your computer. In general, the audio output device should not need to be changed.

“Audio ducking” allows NVDA to lower the volume of sounds from other programs to make NVDA easier to hear. This can be set only while NVDA is speaking, always while NVDA is running, or never.

The arrow keys only move around the current item (e.g., the current combo box). Use **tab** to move through the items. Use **shift+tab** to move backwards through the items.

The Synthesizer dialog box has an "OK" button, a "Cancel" button and an "Apply" button. Press **enter** to activate the "OK" button and save settings and **escape** to activate the "cancel" button. Press **control+s** to activate the "apply" button.

Let's explore the Synthesizer dialog now.

Activity: Exploring the synthesizer dialog

1. Make sure the synthesizer dialog is open from the last exercise.
2. Press **tab** to move through the items until the focus is back to the first item, the "Synthesizer" combo box.
3. Press **shift+tab** to move backwards through the items.
4. Move to the "Synthesizer" combo box.
5. Use the **up** and **down** arrows to explore the synthesizers available.
6. Press **escape** to close the dialog box without changing anything. Note that the focus returns to the "Settings dialog".
7. Press **escape** again to close the Settings dialog without changing anything.

4.5 Revert to Saved Configuration

It is possible to set NVDA to use “no speech”, for instance, to receive information solely via braille. If the synthesizer is set to "no speech", or the speech rate is too fast, it may become impossible to hear the speech.

By default, NVDA is set to save any changes made to its settings when it exits or when the computer shuts down. Restarting NVDA to try to fix a problem will then save the setting instead of reverting it.

To revert to NVDA's saved configuration without restarting NVDA, press **NVDA+control+r**.

NVDA+n is an easy to remember way to access any NVDA setting. Most NVDA dialogs and settings screens also have a shortcut key to access them directly. A shortcut key is a faster way to open screens used often. Often, this shortcut key is **NVDA+control** plus the first letter of the screen. For instance, press **NVDA+control+g** to open the general settings screen. To open the synthesizer dialog, press **NVDA+control+s**.

Let's change the synthesizer and then revert the setting now:

Activity: Reverting to NVDA's saved configuration

1. Read the time and date using the current synthesizer (Press **NVDA+f12** once to report the time and twice for the date).
2. Press **NVDA+control+s** to open the synthesizer dialog. The focus starts on the synthesizer combo box.
3. Use the arrow keys to change the selected synthesizer to something new.
4. Press **enter** to accept the change and close the dialog box.
5. Read the time and date using the new voice.
6. Press **NVDA+control+r** to revert to the saved configuration. NVDA reads "Configuration applied".
7. Read the time and date one more time. The voice should be back to what it was set to before starting this activity.

4.6 NVDA Voice Settings

Once the synthesizer has been set, other voice settings can be customised. Changing the voice, rate and pitch can make a big difference, so it is worth exploring the options. These settings are in the "Speech" category in the settings dialog. As with other settings, press **tab** or **shift+tab** to move between items. NVDA will report the name of each control, its type and what it is set to.

While navigating with tab, NVDA reports the name of each item, its type and hotkey. Noticing this information while navigating has two benefits. First, learning hotkeys for frequently accessed items makes them quicker to access. Knowing how NVDA reads information also makes missing details less likely. There are no hotkeys reported in the categories list itself. The fact that it is a "list" provides a clue to navigating it. In a list, the arrow keys move by one item at a time. The first letter of any item will jump to the next item in the list which begins with that letter. To jump to "Speech" settings in the category list, press **s**. To jump to the "General" settings, press **g**.

Let's explore hotkeys and getting to the Speech settings now:

Activity: Opening the voice settings dialog

1. Press **NVDA+n** to open the NVDA menu.
2. Press **p** to open "Preferences".
3. The focus is already on "Settings". Press **enter** to open the settings dialog. The focus starts in the categories list, on the "General" item.
4. Press the **up** and **down** arrows to move through the items.
5. Try different letters to jump to various items in the list. Press **b** three times and observe what happens each time.
6. Press **s** to move to the "Speech" category.
7. Press **tab** to move through the items. Note the different item types and the hotkeys reported.
8. Leave the settings dialog open to continue using in the next activity.

4.7 Using Sliders and Check Boxes

There are two new types of control in the Speech settings category: sliders and check boxes. Sliders work much like a physical volume control. One slider on this screen adjusts the volume of NVDA's speech compared to other sounds. Note that this is different to audio ducking. Audio ducking reduces the volume of other sounds while NVDA is speaking. The NVDA volume slider allows NVDA's volume to be set the same as, or lower than other sounds. Sliders can be set anywhere within a range of values, which NVDA announces as between 0% and 100%. Press the **arrow keys** to move the slider 1% at a time. Press **page up** or **page down** to move 10%. Press **home** or **end** to jump to the lowest or highest values.

Check boxes (abbreviated as "chk" in braille) work more like a light switch. Setting a checkbox to "Checked" turns that setting on. Setting a checkbox to "unchecked" turns that setting off. Press spacebar on a checkbox to toggle the setting between checked and unchecked. That is, to change it from unchecked to checked, or checked to unchecked. Using a Braille display, the routing key will toggle the setting. Checked displays as "(x)" on a Braille display, and unchecked displays as "()".

Some of the main controls in the Speech settings category include:

- Voice combo box: A list of voices the current synthesizer can use. Voices may have accents for reading other languages, be male or female, or different pitch.
- Variant combo box: Different versions of the chosen voice; for instance, male or female. Note that this combo box is only available for some synthesizers such as eSpeak NG.
- Rate slider: Changes the speed of the voice. A slower speech rate can be easier for new users to understand. A faster rate will utter more information in less time.
- Pitch slider: Used to adjust the frequency of the voice. Lower pitch (smaller value) may be easier to hear for many common forms of hearing loss.
- Volume slider: Adjusts how loud NVDA speaks, up to the same level as other computer sounds. To make NVDA louder than other sounds, use the "Audio ducking" feature covered earlier.

There are also controls to adjust how NVDA reports language, capitalisation and punctuation. More information on the Speech Settings dialog is in the [NVDA User Guide, section 11.1.2](#).

Activity: Using sliders and check boxes

1. Make sure the Voice Settings dialog is open from the previous activity. Press **NVDA+t** to check the name of the current window.
2. Press **tab** until the focus is on the "Rate slider".
3. Press **page down** several times to adjust the value and make the speech slower.
4. Press **NVDA+tab** to read the current item and listen to how the voice has changed.

5. Press **page up** a few times to make the speech faster than before (If you make it too fast, press **page down** to slow it down).
6. Press **NVDA+tab** to read the current item and listen to how the voice has changed.
7. Press **shift+tab** until the focus moves to the "Voice Combo Box".
8. Use the **arrow** keys to change voices. The voice changes immediately. Press **NVDA+tab** to read the currently focused item again in the new voice.
9. Explore the other settings in the speech category. If you find new settings you like, press **enter** to accept the changes. Otherwise, press **escape** to close the dialog box and keep your existing settings. If you accept changes you cannot understand, think back to how to revert them.

4.8 Basic NVDA Configuration Review

This section covered some of the key concepts of using dialog boxes and NVDA settings:

- Menus
 - What menus are
 - How to get around menus and sub-menus
 - How to activate items or dismiss a menu
- The NVDA menu
 - What the NVDA menu contains
 - How to open it
 - Moving with arrows and with "first letter" navigation
- NVDA Speech settings
 - What a synthesizer is
 - How to open the Settings dialog and Synthesizer dialog.
 - Options available in the Speech settings and Synthesizer Settings
- Dialog box elements
 - Understanding Combo boxes, buttons, sliders and check boxes and how to adjust them
 - Navigating around dialog boxes
- Revert to saved configuration (and when to use this instead of restarting NVDA)

Activity: Basic NVDA Configuration review

1. Open the Preferences sub-menu of the NVDA menu.
 2. Dismiss the sub-menu and NVDA menu.
 3. Open the Speech Settings category of the settings dialog.
 4. Explore the Voice and Variant options and find the option you prefer.
 5. Set the speech rate as fast as you are comfortable with.
 6. Try changing the Pitch and Inflection and note down which combination you prefer.
 7. Adjust until you are comfortable and then save your changes.
-

5 Writing Text and Saving Files

The aim of this section is to start typing text and using files. Writing and editing text and saving and opening files are core tasks for any computer user. Knowing how to adjust the amount of feedback NVDA gives while reading and writing enables users to be efficient at these tasks.

Goals for this section:

- Writing a document
- Saving a file
- Opening a saved file

5.1 Writing a Simple Document

Typing text is common to many programs. Writing e-mails, searches, stories, shopping lists and letters all use the same typing skills.

WordPad is a basic word processor which comes with Windows, so this module uses that program. The same skills used in WordPad also apply to other programs such as Microsoft Word, Jarte Word Processor or LibreOffice Writer. When WordPad opens, the focus is in a new blank document, ready to start typing.

By default, while typing, NVDA reads out each letter pressed.

If you press the wrong letter, the **backspace** key can remove it. On a full-size keyboard, **backspace** is usually the top right key in the main block of keys. The **backspace** key is often wider than most other keys, like the **enter** key. Press **backspace** to remove a character. NVDA will announce the letter, number or symbol removed.

To have NVDA read out the current line of text, press **NVDA+up arrow**, or if using laptop layout, press **NVDA+l**. If you aren't sure if NVDA is set to desktop or laptop keyboard layout, please check with your technician. Some commands, such as reading a line of text have different keys for desktop and laptop layout. This module will list the desktop keystroke, then in parentheses, the laptop keystroke. So, to read the current line of text, press **NVDA+up arrow** (laptop: **NVDA+l**).

Press **NVDA+up arrow** (laptop: **NVDA+l**) twice quickly to spell the line. Pressing commands twice to have NVDA spell the output works with many NVDA commands. For instance, press **NVDA+t** twice to spell the window title or **NVDA+tab** to spell the item with focus.

When finished writing, press **alt+f4** to close WordPad. A dialog appears asking whether to save changes. Prompting to save changes provides a chance to avoid losing unsaved work. Let's create a document in WordPad now:

Activity: Creating a new document in WordPad

1. Press the **Windows** key to open the Start menu.

2. Type *wordpad* and press ENTER to open WordPad.
3. Type *I have a green hat*.
4. Press **NVDA+up arrow** (laptop: **NVDA+I**) and read the current line.
5. Press **backspace** to remove the word "hat". You need to press **backspace** four times; NVDA announces ". t a h" as **backspace** is pressed.
6. Now type the word *scarf*.
7. Press **NVDA+up arrow** (laptop: **NVDA+I**) and read the current line. Confirm the text is "I have a green scarf".
8. Press **alt+f4** to close WordPad.
9. When prompted to save changes, press the letter **n**.

5.2 Navigating Around Text with Arrows

Anywhere text can be typed, such as WordPad, there is an indicator, or cursor, known as the "caret" or "insertion point". While typing, it moves to stay just past the last character typed. The caret can also be moved using the arrow keys, to edit existing text.

If text is typed in the middle of a line, the existing text moves across to make room. If more text is typed than will fit on one line, it will automatically move excess words to the next line. To move to a new line before the current line is full, press **enter** to move down one line. Press **enter** twice to leave a blank line between paragraphs.

When the **left** or **right** arrow keys are pressed, the caret moves by one character. As the caret moves, NVDA reads the character to its right. In braille, a blinking underline (dots 7 and 8) is displayed under this character.

Immediately after typing the sentence, "The sand is hot.", the caret will be at the end. If the **left arrow** is pressed to move back, NVDA would speak ".", "t", "o", "h", "space" as the caret moves back through the word "hot". In braille, the blinking underline also moves accordingly. The caret would now be in between the word "is" and the space after it. The last character read out ("space" in this case) is the character to the right of the caret. Unlike when using backspace, moving through text with the arrows does not remove the text.

To say that the sand is "very" hot, with the caret now at the end of the word before "is", press **spacebar** to put a space after the word, then type *very*. The rest of the text (the original space and the word "hot.") moves across to make room. The sentence will now read "The sand is very hot."

Activity: Navigating around text with arrows

1. Open WordPad (press the **windows** key, type *WordPad*, then press **enter**).
2. Type the following three lines of text, pressing **enter** after each line. Use **NVDA+up arrow** (laptop: **NVDA+I**) to confirm each line as you write it:

Barking puppy jumps
Fallen leaves swirling in wind!
He tries to eat them.

3. Press the **left arrow** and move back until NVDA announces "space" (or the blinking underline is displayed under the space in braille) which places the caret directly after the word "eat".
4. Press **left arrow** once more to hear the "t" in "eat" then **right arrow** to come back to the space. Remember, NVDA always reads the character to the right of the caret.
5. Press backspace three times to remove the word "eat". NVDA announces "t", "a", "e" as it removes each letter.
6. Type the word *chase*.
7. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line and confirm it reads "He tries to chase them.". It has pushed the word "them" over to make room for the word "chase".
8. Press **alt+f4** to close WordPad and when prompted, press **n** to close without saving changes.

5.3 Saving and Closing the Document

Last activity, WordPad was closed without saving the text which had been written. That means, to get the Haiku about the puppy back in WordPad, it will need to be written again.

More often, after writing a document, you will want to save it so that it can be opened again later to read or keep writing. To save the current document in WordPad, press **control+s**. When saving a document for the first time, WordPad will ask where to save it and what name to give it.

By default, WordPad will offer to save files in the "Documents" folder. This is a good place for now, so all that is needed is to give each document a name. The name should be something related to the text that will be recognised when looking for the document again in future.

There are some symbols which cannot be used in a file name, but letters, numbers, spaces and commas are all fine.

The focus starts in the "file name edit" so to save in the default folder, simply type a name and press **enter**. WordPad also adds ".rtf" to the end of the name typed. This indicates to the computer that the file can be opened in WordPad. Depending on the PC setup, NVDA may not read the ".rtf" at the end of the name. Once the current WordPad document has been saved, the title also changes from the generic "document" to the name of the file.

Let's try saving a file now.

Activity: Saving a document in WordPad

1. Press the **windows** key.
2. Type *wordpad* and press **enter**.
3. Press **NVDA+t** to confirm that WordPad is open. NVDA should read "Document - WordPad".

4. Type the following lines of text:

The town has a big dairy.
They make all the milk.
Then sell it on to Mary,
Who wears quite fine silk.

5. Press **control+s**. NVDA will report that the "Save as dialog" is open with the focus in the "File name combo box".
6. Type *the dairy* followed by a space and your initials.
7. Press **enter**. The dialog closes and focus returns to the text.
8. Press **NVDA+t** to read the Title. NVDA reads "the dairy nn - WordPad" (where "nn" is your initials).
9. Press **alt+f4** to close WordPad. Note that WordPad closes and does not prompt about saving the document as it is already saved.

5.4 Opening a Saved Document

Opening a saved document allows it to be read or edited without having to start again each time. To open a document in WordPad, press **control+o**. The Open dialog is like the Save dialog. When it opens, the focus is on the file name.

Pressing **shift+tab** moves the focus to the list of files. NVDA should read "not selected, one of twenty" at the end ("twenty" is the number of files in the Documents folder so this number will vary). If NVDA reports, "name split button collapsed, sorted, ascending", then the focus is in the column header. In that case, press **shift+tab** one more time to move to the list of files. With the focus in the list of files, use the **arrow keys** to find the correct file. Alternatively, press the first letter of the file to jump to the next file beginning with that letter. Note that there may be more than one column of files to look in, as this will list every document in your "documents" folder.

Once the file is located, press **enter** to open it.

Once the file opens, the caret will be at the top of the file, even if it was elsewhere in the file when it was saved previously. The **up** and **down** arrows can be used to move through the file.

Let's open the file saved last activity.

Activity: Opening a document in WordPad

1. Open WordPad (refer to steps 1 and 2 in the last activity if needed).
2. Press **control+o**. The "Open dialog" will appear.
3. Press **shift+tab**. If NVDA reads "name split button, collapsed, sorted ascending" then press **shift+tab** again.
4. Press **t** to jump to the first file beginning with the letter "t".
5. If NVDA reads "the dairy nn" (where "nn" is your initials), then this is the file we are looking for. Otherwise use the **down arrow** to locate the file in the list.

6. Press **enter** to load the file.
7. Press the **down arrow** to read through the file.
8. Press **NVDA+t** to read the title. Note it says "WordPad" and reads the name of the file we just opened.
9. Press **alt+f4** to close WordPad. If you only read the document and didn't type anything, WordPad should simply close as the document was already saved.

5.5 Saving and Opening Files Review

This section covered some of the important aspects of working with files:

- Opening WordPad
- Becoming familiar with typing text
- Using backspace to remove the last character typed
- Saving a document
- Opening a previously saved document
- Reading using the **up** and **down** arrow keys

Activity: Saving and opening files review

1. Open WordPad.
2. Type the following lines of text:

Red light on your port side,
your starboard light is green.
Home on the morning tide,
Oh boat, where have you been?

3. Save the file as "little boat" with your initials.
 4. Close WordPad.
 5. Open WordPad again.
 6. Type *Where did my boat go?*
 7. Without saving the line of text you just wrote, open the "little boat" file you saved.
 8. Read through the text.
 9. Close WordPad.
-

6 Editing Documents

The aim of this section is to become comfortable reading and editing text.

Goals for this section:

- Using NVDA reading commands
- Configuring feedback of typed characters
- Adjusting the punctuation level

- Editing text
- Selecting text and using the clipboard
- Using the undo feature

6.1 Reading Text

Last activity, the **down arrow** was used to read through text. A whole document can be read that way, but would require pressing the **down arrow** after each line.

NVDA has a "Say all" command to read the document from the current point onwards by pressing **NVDA+down arrow** (laptop: **NVDA+a**). Say all will read to the end of the text or until it is stopped. Press **shift** to pause and restart speech. Press **control** to stop speaking entirely. Note that some 3rd party synthesizers do not support pausing speech, but **control** can be used with any synthesizer. If **control** is used, a command such as "Say all" will need to be given again, or the caret moved before NVDA will speak again. By default, speech will also stop if interrupted by another command.

As used previously, NVDA also has a command to read just the current line of text: **NVDA+up arrow** (laptop: **NVDA+l**). Let's practise loading The Dairy file again and try reading using the new keys now.

Activity: Reading text

1. Open WordPad.
2. Press **control+o** and open the "The dairy" file from the last couple of activities (refer to the "Saving a document in WordPad" Activity, if necessary).
3. Press **NVDA+up arrow** (laptop: **NVDA+l**) to read the current line. This hasn't moved the caret, so the focus is still at the start of the first line.
4. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the whole text. The caret now moves to the very bottom of the file.
5. Press **up arrow** until the focus is at the first line again.
6. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the document again. This time press **shift** to pause NVDA when reading the second line ("They make all of the milk").
7. Press **shift** again to restart speech. Note where the speech restarts from.
8. Repeat steps 5 to 7, but this time, press **control** to stop speech, and **NVDA+down arrow** to start reading again.
9. Press **alt+f4** to close WordPad and **n** to not save changes.

6.2 More Navigation Commands

The **arrow keys** move by one character or by one line. There are other navigation commands which move further at once. These all work in WordPad, but some may work differently in other programs.

Here are some more navigation commands we can use:

- **control+left arrow** or **control+right arrow** moves back or forward by one word.
- **control+up arrow** or **control+down arrow** moves by one paragraph.
- **home** moves to the start of the current line.
- **end** moves to the end of the current line.
- **control+home** moves to the start of the document.
- **control+end** moves to the end of the document.

Let's practise these now:

Activity: More navigation commands

1. Open WordPad.
2. Type the following paragraph:

Clack, clickety-clack!
Powerful locomotive,
roars through green forest.

3. Press **enter** twice to put a blank space before the next paragraph, then type:

Tall craggy mountains,
Brilliant white snow, crisp and new.
Skiing holiday!

4. Press **control+up arrow** to move up to the start of the paragraph, then again to the start of the first paragraph.
5. Press **control+right arrow** to move word by word until you get to "roars" in the third line.
6. Press **control+home** to move to the start of the text.
7. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the entire text.
8. Practise using the navigation commands until you are confident with them.
9. Press **control+s**, save the document as "haiku " and your initials, then close WordPad.

6.3 Using Delete

The **backspace** key removes the character to the left of the caret. This makes it very useful for removing the last character typed if the caret has not been moved. When using the **arrow** keys, NVDA reads the character to the right of the caret.

The **delete** key removes the character to the right of the caret, the one that NVDA reads out as you move using the **left** and **right** arrow keys. This makes the **delete** key more intuitive to use when editing text.

You can also press **control+delete** to remove the word (or partial word) to the right of the caret.

Let's practise that now.

Activity: Using delete

1. Open WordPad.
2. Type *The cat chases her squeaky toy*.
3. Press **home** to move to the start of the line.
4. Press **right arrow** until the caret is at the "c" in "cat".
5. Press **delete**. The "c" will be deleted. NVDA won't announce that but will simply read "a" which is now the letter the caret is on.
6. Delete the rest of the word ("a" and "t").
7. Type the word *dog* to replace it and use **NVDA+up** (laptop: **NVDA+l**) to confirm the sentence now reads "The dog chases her squeaky toy".
8. Press **control+right arrow** to move to the word "squeaky". When NVDA announces "squeaky", the caret is just to the left of the "s" in that word.
9. Press **control+delete** to delete the word and read the line again to confirm it now says, "The dog chases her toy".

6.4 Configuring Feedback of Typed Characters

So far, NVDA has read each character as it is typed. The advantage is being alerted immediately when an incorrect character is pressed. The disadvantage is that listening for each letter may slow down typing.

Press **NVDA+2** to toggle "Speak typed characters". As with other "toggles", pressing **NVDA+2** turns this option on if it was off, or vice versa.

A similar toggle is available to control whether whole words are announced once they are typed. Press **NVDA+3** to toggle "speak typed words" on or off. When on, a word is read once the spacebar or punctuation (e.g., full stop or comma) is typed after it. Both options can be changed from "Keyboard Settings" which is in the NVDA "Preferences" menu (the same sub-menu used to get to the "Voice Settings" dialog previously).

Activity: Toggling typing feedback

1. Open WordPad.
2. Type: "If I had a rocket. Poem # 2" and press **enter** twice.
3. Press **NVDA+3** to turn "Speak typed words on"
4. Type the following four lines, pressing **enter** after each one. You will hear every character you type, and when you finish each word, you will hear the word as well:

If I had a rocket,
I'd fly it to the moon.
To see if it was made of cheese;
If so, I'd eat some with a spoon!

5. Press **NVDA+2** to turn "Speak typed characters" off.
6. Press **enter** twice, then type the following four lines. Remember that you won't hear each character you type, only each word:

Then on to Mars I'd fly!
To meet the Martians there.
I'd share dessert, of apple pie;
then head home, to my comfy chair.

7. Type another verse to the poem. As you type, practise typing with different combinations of speak typed words and characters on and off and see which you prefer. **NVDA+2** toggles Speak typed character and **NVDA+3** toggles Speak typed words.
8. Save the document as "If I had a rocket " with your initials at the end (refer to the previous activity if needed).
9. Leave the file open to use again next activity.

6.5 Configuring the Punctuation Level

By default, NVDA conveys punctuation as it reads, mostly by pausing or changing pitch. Note this is for reading, not while typing like last topic. You can have NVDA read punctuation (such as saying the word "comma" when there is a comma in a sentence). This is useful for proofreading or for reading complex text such as code or maths.

You can change how much punctuation NVDA reads by pressing **NVDA+p**. This is also available in the "Voice settings" dialog box we looked at earlier. There are four levels of punctuation: "none", "some", "most" or "all". The default setting is "some".

Let's practise on the "If I had a rocket" poem we wrote last activity.

Activity: Changing the punctuation level

1. Press **NVDA+t** to read the title bar and ensure the "If I had a rocket" file saved last activity is open. If it is not, open it now.
2. Press **control+home** to move to the top of the document.
3. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the text. Notice how NVDA pauses at commas and between sentences but does not announce the symbols themselves. The only one reported is the "#" (hash or number sign) as the heading on the first line should read "If I had a rocket, Poem number 2".
4. Press **control+home** to move to the top again.
5. Press **NVDA+p** twice. NVDA will read "Symbol level all".
6. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the document. Notice how every symbol is read out? Not ideal when reading a poem for enjoyment, but perfect for proofreading or computer programming, which includes a lot of symbols.
7. Practise moving back to the top, changing the punctuation level to none and read through again. When you are done, set it back to "some".
8. Close WordPad.

6.6 Speak Command Keys

NVDA has various options to control how much information is read at any point. One of these, which you may find useful, particularly if you are not completely confident with the keyboard, is called "Speak Command Keys". When on, this option reads out each "command" key as you press it, as well as responding to whatever that key does. Normally, when you press **delete**, for instance, NVDA simply reads out the character the caret is now on after removing the deleted character. With Speak Command Keys on, NVDA will announce "Delete" and the character the caret is now on. Speak Command keys also does this for the **function keys**, **escape**, **tab**, **caps lock**, **backspace**, shortcut keys (e.g., **control+s** to save, **control+right arrow** to move right by one word), **enter**, and the **arrows**.

You can toggle Speak Command Keys by pressing **NVDA+4**. You can also access it from the "Keyboard settings" option of the NVDA Preferences menu.

Activity: Speak command keys

1. Press **NVDA+4** to turn Speak Command Keys on.
2. Open WordPad.
3. Type *test*.
4. Press **enter**.
5. Press **control+home** to move to the start of the document.
6. Press **delete**.
7. Press **NVDA+4** to turn Speak Command Keys off.
8. Practise navigating, typing and deleting with Speak Command Keys on and off and leave it set how you prefer.
9. Close WordPad without saving.

6.7 Selecting Text

Selecting text allows it to be edited or moved as a block, rather than character by character. Text can be copied or moved within a document, or to another program. A block of text can also be deleted all at once.

Navigation keys range from the **arrows** to move by character, up to **control+end** to jump to the end of a document. The navigation keys were covered at the start of this section.

Hold down **shift** while pressing any of the navigation keys to select text as the caret moves. For instance, press **shift+control+right arrow** to select the word to the right of the caret. Press **shift+end** to select from the current point to the end of the current line.

Selection is possible in either direction. Only selecting forwards from the cursor is often easier to remember. It is important not to change direction while selecting as that will unselect text.

As the caret moves, NVDA reads the most recently selected text, followed by the word "Selected". Braille displays show selected text by underlining it with dots 7 and 8. Unlike the cursor, the underline does not blink.

Let's write and select some text now:

Activity: Selecting text

1. Open WordPad.
2. Type the following lines:

Man, on the radio.
Wake me up. Hey, hello!
Play a tune, very loud,
get up now, join the crowd.

3. Move the caret to the start of the second line (press the **up** arrow twice, then press **home**).
4. Press **shift+end** to select the line.
5. Press **delete** to delete the line.
6. Move to the top of the document and read the text to ensure the second line is gone.
7. Select the fourth line and delete it.
8. Read the document again and confirm it reads "Man on the radio. Play a tune, very loud."
9. Close WordPad without saving.

6.8 Unselecting Text

Several selection commands can be used together. For instance, press **shift+end**, then **shift+down arrow** and then press **shift+control+right arrow**. These selection keys select to the end of the line, the whole next line and then the first word of the following line.

As the selection changes, NVDA reads the new text, followed by "Selected".

To select the whole document, press **control+a**.

Press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**) to have NVDA read the selected text. NVDA+tab gives information about selected text as well as the control with focus. Press a navigation key without holding **shift** to unselect text.

Let's practise selecting and unselecting text now.

Activity: Unselecting text

1. Open WordPad.
2. Type the following lines:

This is a line,
and this is as well.
I'll say this now,
I don't want to yell!

3. Move the caret to the start of the third line (press the **up** arrow then **home**).
4. Press **shift+control+right arrow** twice to select the first two words. NVDA speaks "I'll selected", then "say selected". In braille, "I'll say" is underlined.
5. Press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**). NVDA reads "Selected I'll say".
6. Press the **up arrow**. NVDA reads "Line 2, and this is as well. I'll say, unselected". Because the caret moved without SHIFT held down, the text is unselected. In braille, the selection underline disappears.
7. Save the file as "lines" and your initials.
8. Close WordPad.

6.9 Copying text to the Clipboard

Once text has been selected, one common task is to copy it somewhere else. When copying text, the computer creates an identical copy of it, and keeps it in a part of memory called the "clipboard". After navigating to a new position, the "paste" command will put a copy of the text at the new location. The computer keeps the text in the clipboard in case more than one copy of it is required.

After selecting text, press **control+c** to copy it to the clipboard.

To paste the text which is currently in the clipboard, press **control+v**.

NVDA can also read what is in the clipboard by pressing **NVDA+c**. If there is a very large amount of text on the clipboard, instead of reading it, NVDA will advise how much text there is.

Let's try on the "Lines" file we created last activity.

Activity: Using the clipboard

1. Open WordPad and the "lines" file which was saved in the previous activity.
2. Press **shift+end** to select the whole line. NVDA will read: "This is a line, Selected".
3. Press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**) to read the selected text. NVDA reads: "Selected This is a line,".
4. Press **control+c** to copy the line of text.
5. Press **control+end** to move to the end of the text and **enter** to add a new line.
6. Press **NVDA+c** to read the clipboard. NVDA reads: "This is a line,".
7. Press **control+v** to paste the text we copied.
8. Press **control+v** to paste the text again.
9. Read the whole file (Press **control+home** to move to the start then **NVDA+down arrow** (laptop: **NVDA+a**) to read from that point onwards). Note that "This is a line" appears three times. Save the "lines" document and leave WordPad open to come back to next Activity.

6.10 Cutting Text

Last activity, selected text was copied, which created a second copy on the clipboard. This second copy could then be "pasted" elsewhere. Text can also be "cut" to the clipboard, which removes it from its original location and places it on the clipboard, ready to paste elsewhere, effectively moving it.

Let's edit our document and reorder the sentences now:

Activity: Cutting text

1. Make sure the "Lines" document is still open in WordPad from the previous activity.
2. Press the **up arrow** until the caret is at the start of the second line (which reads "and this is as well.")
3. Press **shift+end** to select the line.
4. Press **control+x** to cut the line.
5. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. NVDA reads "I'll say this now", which used to be the third line. The second line has been "cut" and is now only in the clipboard.
6. Press **NVDA+c** to read the clipboard and confirm this.
7. Press **control+end** to move to the end of the file and press **control+v** to paste the text.
8. Read through the whole document from the top. Notice that the "This is a line." text we copied is still there three times and the "and this is as well" text is there only once at the bottom of the document.
9. Save the Lines document and leave WordPad open to return to once more.

6.11 Using Undo

The keys for "cut", "copy" and "paste" are all together near the bottom left of the keyboard. One more keystroke in the same place, which is also very useful is **control+z**, which is "undo". This undoes the last action, whether that was typing a character, deleting a word or pasting some copied text. When working with selected text, it can be easy to accidentally delete large blocks of text. If a character is typed while text is selected, it will remove all the selected text and type just that one character.

Let's practise working with selected text some more.

Activity: Using undo

1. Ensure the "lines" document is still open in WordPad and press **control+home** to move to the top of the file.
2. Press **control+shift+right arrow** to select the first word ("this").
3. Press **control+x** to cut the selected text.
4. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the line. It should read "is a line".
5. Move to the start of the second line and press **control+v** to paste the text.
6. Read the line. NVDA reads "This I'll say this now".

7. Press **control+z** to undo. Read the document now and note that the word "This" has been removed from the start of the second line.
8. Press **control+z** to undo one more action. The word "This" has now been returned to the start of the first line and is selected. NVDA will read "This selected".
9. Save the "lines" document and close WordPad.

6.12 Finding Text

When reading a document, sometimes it is useful to be able to jump to a specific word or phrase. For instance, in a reference manual, dictionary, or a book which has been partly read.

With a text file open, press **control+f** to bring up a "find dialog". Next, type in a word or phrase and press **enter** to search for it in the text.

There are several options which can "filter" or narrow the search before pressing **enter** to perform it. A "Match whole word only" check box, when selected, restricts results to whole words. For instance, searching for "one", it will only find instances of the whole word. A search matching whole words only for "one" will not find "gone" or "honest". Press **alt+w** to toggle this option. There is also a check box for "Match case" which makes the search case sensitive. A case sensitive search for "Violet", the lady's name with a capital "V", will not find "violet", the colour with a lowercase "v". The shortcut for this is **alt+c**, or you can use **tab** and **spacebar** to toggle either option.

If the text is not found, a dialog will appear with "WordPad has finished searching the document". otherwise, the focus will move to the next instance of the text which was searched for. You can then press **escape** to close the search dialog and read the line with **NVDA+up arrow** (laptop: **NVDA+l**).

The text which was searched for will be selected, ready to copy or cut as covered recently. Alternatively, press an **arrow key** to unselect it.

To perform the same search again, instead of going through the dialog, press **f3**.

The Find command with **control+f** is available in many programs, as well as the **f3** command to find the next instance. However, the specific options available in the find dialog and how they are set out varies from program to program.

Activity: Finding text

1. Open the "If I had a rocket" file we saved earlier.
2. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read through the poem.
3. Press **control+home** to move the focus back to the top of the file.
4. Press **control+f** to open the "find" dialog.
5. Type the word *then* (without quotes) and press **enter** to search for the text.
6. Press **escape** to close the find dialog.
7. Press **NVDA+up arrow** (laptop: **NVDA+l**) to read the line.
8. Use **f3** to find other instances of the word "then" in the document.

9. Close WordPad.

6.13 Editing Documents Review

This section covered a lot of the important skills which can improve proficiency in writing and editing text on the computer. The keystrokes introduced can be used regardless of the program being used. This section also covered adjusting some more of NVDA's options to continue to refine the information it provides to make it more useful:

- Reading text
 - NVDA reading commands
 - NVDA Navigation commands
- Feedback
 - Speak typed characters
 - Speak typed words
 - Reading punctuation level
 - Speak command keys
- Editing
 - Using Delete
 - Selecting text
 - Using the clipboard
 - Using undo
- Using the "find" dialog to search for text

Activity: Editing documents review

1. Open WordPad.
 2. Type *Editing documents* and press **enter** twice for a new paragraph.
 3. Type one line each about how to toggle the following settings and what each setting does:
 - "speak typed characters",
 - "speak typed words",
 - "punctuation level" and
 - "speak command keys".
 4. Write all the navigation commands (e.g., down arrow) you can think of (each on their own line) and what they do.
 5. Select and then "cut" the text you typed on navigation commands.
 6. Move to just under the "Editing documents" heading at the top.
 7. Paste the text we cut to move it here. Read through the document to ensure it makes sense.
 8. Use the "find" command to locate the "speak command keys" line.
 9. Save the document as "Document editing" and your initials, then close WordPad.
-

7 Document Formatting

The aim of this section is to introduce the concept of document formatting. While this is often quite visual, formatting may also convey useful information. Formatting can include the size of text and whether it is bold, italicised or underlined.

Many companies have specific guidelines on how information is formatted. When writing for or reading documents from a company, knowing how their documents are formatted and how to read that formatting information can be very important.

Goals for this section:

- Reporting text formatting
- Using common formatting
- Setting automatic reporting of format changes
- Accessing the Ribbon

7.1 Reporting Text Formatting

NVDA can report the formatting of text. Press **NVDA+f**, to read the font name, size, text attributes and alignment.

The font name indicates the type of font. Different fonts look distinct from each other. Some fonts appear like traditional typewriter characters; some like handwriting, etc. "Calibri", "Arial" and "Times New Roman" are three popular fonts.

The font size is set in "points", often written as "pt". The larger this number, the bigger the text. The fonts used in most business letters are usually 12pt.

Colour indicates the colour of the text and / or background. If this has not been changed, in some programs NVDA will report "default colour". Otherwise, NVDA may report a specific colour, like "black" or "green".

Text attributes change the appearance and intended meaning of text. Text which is bold is visually thicker for emphasis. Italicised text visually slants to the right and is often used to show quoted text. Underlined text has a line drawn underneath to make it more prominent. Text attributes can be combined. Headings, for instance, may be bold and underlined to stand out.

Alignment indicates the position of the whole line or paragraph of text. Regular text is often left aligned; this is the default. In left aligned text, every word starts the same distance from the left edge of the page or screen. Depending on the text, each line may finish at a different distance from the right margin. Right aligned text is the opposite: with the right edge of the text against the right margin of the page. Centred text has an equal gap left and right. Justified text is used in novels and newspapers. Justified text lines up with both left and right edges with varying space between words.

Formatting is shown on a braille display if the code table includes formatting symbols.

Press **NVDA+f** twice quickly to display formatting information in a small window. Use the navigation keys to move around the formatting window. Text can be selected and

copied from the information window if needed. Press escape to close the window when done.

One new command used in this activity, **control+b** toggles "bold". This is one of the most common ways of emphasising text. Let's read the formatting of a new document in WordPad.

Activity: Reporting text formatting

1. Open WordPad and type the following lines:

Visiting grandpa. Shuttle landing. Mars retirement.

Jump high. Red sky. Mars life.

Rocket ship, heading home. Small world.

2. Press **NVDA+f**. NVDA will read the formatting information (e.g., "Calibri 11.0pt, default color on default color, align left"). If using a braille display, this information is displayed on the braille display.
3. Select the word "Red". That is, press **up arrow** then **control+left arrow** until the caret is at the start of the word "Red". Then, press **shift+control+right arrow** to select the word.
4. Press **control+b** to make the word bold.
5. Press **NVDA+f** twice quickly to display the formatting information in its own window. NVDA should now read "Calibri 11.0pt default color on default color bold align left".
6. Use the arrows to move through the lines. If NVDA reads the document text rather than formatting information, repeat step 5, pressing **NVDA+f** twice quicker than before.
7. Press **escape** to return to the document.
8. Move to another part of the text and read the formatting. Provided the caret is not on the word "Red", the text shouldn't be bold, and so NVDA does not report "bold".
9. Leave the document open to use again next activity.

7.2 Automatic Reporting of Format Changes

When proofreading, NVDA can be set to read any formatting changes while it is reading. When reading a line, for instance, it can report that a word is bold without having to press **NVDA+f** to check each word.

The "Document formatting" category in NVDA's settings dialog contains options which will set NVDA to automatically read formatting changes. Most of the options in this dialog let you set exactly which changes will be read (e.g., font size or colour). One check box on this screen is "Announce formatting changes after the cursor". This option sets NVDA to automatically read formatting changes in text while reading. If this option is not checked, in some programs, such as WordPad, NVDA only reads formatting changes at the caret (e.g., when pressing the right arrow, but not during "Say all").

To open the document formatting settings, open the settings dialog from NVDA's Preferences menu then choose the category. Alternatively, press **NVDA+control+d** to open the settings dialog directly to the document formatting category.

Activity: Automatically reading format changes

1. Press **NVDA+t** to read the title bar. Make sure the document from the previous activity is still open.
2. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. Notice that it reads the text, but does not tell us that "Red" is in bold.
3. Press **NVDA+control+d** to open the Document Formatting dialog.
4. Press **tab** to move down to "Report font attributes" and **spacebar** to turn this option on.
5. Press **enter** to accept the change and return focus to WordPad.
6. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line again. Note how this time NVDA says "Jump high. Bold Red No Bold. sky. Mars life.".
7. Press **NVDA+f** to report the formatting and have the font information read.
8. Leave the file again as we'll come back to it next activity.

7.3 Using Text Formatting

There are some formatting commands which are quite common and used consistently in various programs. They include commands to emphasise text, change its alignment or change the size of the text.

Bold, italics or underline are often used for emphasis or to signify meaning. Bold gives a strong emphasis. Text is thicker than normal and so more prominent. To make text bold, press **control+b**. Italics is often used when quoting or to make text distinct from surrounding text. Visually italicised text leans slightly to the right. To make text italicized, press **control+i**. Underline can be used for emphasis. It is also used commonly for links to web pages (that is usually added automatically). To underline text, press **control+u**.

Text alignment (note because these attributes affect the whole line, they can be set from any point in a line):

- Left: level with left edge of page. Press **control+l**
- Centre: equal distance from both sides. Press **control+e**
- Right: level with right edge of page. Press **control+r**

Text size:

- Larger by one font size. Press **control+shift+.** Note that the font size does not simply increase by 1pt (e.g., 12pt to 13pt to 14pt), but usually starts at 8pt or 10pt, and jumps by 2 or more each time.
- Smaller by one font size. Press **control+shift+,**

Notice how most of the commands use **control** and the first letter of the command - **b** for bold, **i** for italic, etc. Why then is the command to centre text **control+e** and not

control+c? Think back to the topic on using the clipboard. Not every command can use its first letter.

Activity: Using text formatting

1. Make sure the document we have been working on this section is still open.
2. Open the NVDA Document Formatting dialog and ensure "Report font size" and "Report font alignment" are checked.
3. Select the whole first line (**control+home** to go to top, then **shift+end** to select the line).
4. Press **control+shift+.** to increase the font size until it is at 16 point. Use **NVDA+f** in between each time to check. Depending on the starting font size, you may need to repeat this step several times.
5. Press **control+a** to select the whole document and press **control+r** to right align it.
6. Move to the first line (either **left** or **up** arrows).
7. Use the **up** and **down** arrows to move through the document. Notice how the change in font size is announced, but as the whole document is right aligned, the alignment is not announced.
8. Press **NVDA+f** to read all the formatting information, including that the text is right aligned.
9. Save the document as "Mars life" followed by your initials and close WordPad.

7.4 Using the Ribbon

A Ribbon is a feature of some programs which provides a way of accessing functions and options. The Ribbon appears visually in the upper part of the program window, just below the title bar. Many of the options, as we've seen, are available via keyboard shortcuts, but some may only be in the Ribbon. It is hard to remember commands that aren't used regularly. It is useful, however, to at least know that everything can be accessed from the ribbon.

The ribbon is arranged into "tabs". Commands on each tab are separated into sections. For instance, the "View" tab in WordPad has commands relating to the appearance of a document and of the WordPad window itself. Within the view tab, there is a "Zoom" section and within the zoom section are controls to zoom in or out.

Press **alt** to access the ribbon. Use the **left** and **right** arrow to select the desired tab. Press **control+left arrow** or **control+right arrow** to move between sections on the current tab. Press **tab** to move between individual commands. Once the end of the current section is reached, pressing **tab** again will move to the next section.

As NVDA reports each object in the Ribbon, it will also report the keys you can use to get directly to it. For instance, in WordPad, press **alt** to move to the ribbon, then **right arrow** to the "View" ribbon. NVDA will read "View tab selected, alt, v". If you use the View tab a lot, you can use **alt+v** or **alt** then **v** to jump directly to it.

As you get into each section of the ribbon, every item has a set of keys that will get directly to it which start with **alt** and may be three or four characters after that. To zoom in and out, for instance, is:

- **alt** (to access the ribbon)
- **v** (for the View tab)
- **i** to zoom in, or **o** to zoom out.

Note that when you go into the Ribbon, it will automatically go into the last tab you had open, so it is a good idea to specifically choose the tab you need each time.

Let's use the ribbon to increase the line spacing in our Mars Life poem, which can make it easier to read for some people.

Activity: Using the ribbon

1. Open WordPad and the "Mars life" document you saved last activity.
2. Select the whole document (press **control+a**).
3. Press **alt** to open the Ribbon. NVDA will report that it has opened the Ribbon and which tab you are on.
4. Press **h** to move to or ensure the focus is on the home tab.
5. Press **control+right arrow** until NVDA reports "Paragraph toolbar" and then the first item in this section called "Decrease indent".
6. Press **tab** until the focus is on "Change line spacing" and press **enter** to select this item.
7. A drop-down list of line spacing options appears. Press **down arrow** until the focus is on "1.5", then press **enter** to select this.
8. Repeat steps three to six to confirm that the line spacing is 1.5. While pressing **down arrow** through the list of line spacing options, note that NVDA reads *checked* when it gets to 1.5. Press **alt** to close the list and ribbon and return to the text.
9. Save and close the document.

7.5 More on the ribbon

Visually the Ribbon heading tabs appear as text labels while the currently selected ribbon itself is a row of icons underneath. Some icons are larger than others, and in some sections, there may be more than one row of icons. For this reason, it is best to use **tab** to move through a ribbon section, rather than the arrows.

While the ribbon is always visible when interacting with it, it is possible to choose whether the ribbon is visible or not at other times by pressing **control+f1**. NVDA does not announce anything when this keystroke is pressed, but the main part of the ribbon either appears or disappears. The benefit of this is mostly visual as hiding the ribbon simply makes more room on screen to show the main working area (the open document in WordPad, for instance). In some programs, such as WordPad, the ribbon is visible by default. In some, such as File Explorer (which we'll come to next chapter), it is hidden by default.

If the ribbon is hidden, after pressing **alt**, the focus often moves to the "file" button, rather than the heading for the ribbon which last had focus. The **arrow keys** move to the different tab headings and NVDA will announce "Home tab, submenu", whereas when the ribbon is shown, NVDA will announce "Home tab, selected". With the ribbon hidden, additionally press **enter** to open the desired ribbon tab before pressing **tab** or **control+tab**.

Let's use the ribbon in WordPad again. This time we shall use it to insert the date into our document, as well as practising listening for the keys to quickly access functions from the Ribbon:

Activity: More on the ribbon

1. Open WordPad with a blank document.
2. Open the Ribbon and go to the "home" tab.
3. Move to the "Insert" section of the home tab.
4. Move through the "Insert" section to find the "Date and Time" item. Note the shortcut key announced at the end, to use next time. It is alt plus the first letters of the tab and item with focus.
5. Press **enter** to activate the item. A dialog box opens with a selection of date and time formats we can choose from.
6. Choose the date format which includes the full day of the week and press **enter** to insert it into our blank document.
7. Edit the document to read:

"Today is: " and then the date

"The time is: "

8. Move the focus to the end of the document, ready to complete the second line. Press the shortcut key noted in step 4 to open the date and time dialog, then insert the current time (either format) into the document.
9. Read the document and ensure it makes sense. Confirm that the correct time and date have been entered. If the time or date is wrong, please consult your trainer on how to correct this. When finished, close WordPad without saving.

7.6 Document Formatting Review

This section covered some of the most common text formatting commands. Various ways of reading text formatting information were also discussed:

- Manually reading formatting:
 - Reading formatting on demand with **NVDA+f**
 - Understanding what information is read out
- Setting automatic reporting of formatting changes
 - Knowing how to configure NVDA to automatically report font attributes such as bold
 - Practise reading formatting changes
- Using common formatting commands
- Accessing the WordPad Ribbon

Activity: Document formatting review

1. Open the "Mars life" document we saved last activity.
 2. Open NVDA's "Document Formatting" dialog and set NVDA to report line numbers and font size but not to report alignment.
 3. Set the second line of text to left aligned.
 4. Read through the document. Note how line numbers and the changes in font size are read, but not the change in alignment.
 5. Open NVDA's "Document Formatting" dialog again and set NVDA to not report line numbers or font size, but to report alignment.
 6. Read through the document again.
 7. Open NVDA's "Document Formatting" dialog one more time and set the options to those you will generally find useful.
 8. Close WordPad without saving changes.
-

8 Basic File Management

The aim of this section is to introduce the concept of file management. So far, documents in WordPad have been saved in the default directory. Knowing how to create and move folders and files provides the ability to sort documents, (and any files), into an organised structure.

Goals for this section:

- Using File Explorer
- Navigating around folders
- Creating folders
- Moving and copying files between folders
- Renaming files and folders

8.1 Opening File Explorer

Writing saved in WordPad is kept in one file for each document saved.

Documents are one type of file. Other types of files include images, music and programs which can be run on the computer, such as WordPad or NVDA.

Files can be stored in folders, to keep them organised. Folders can contain files or other folders.

"File Explorer" can be used to browse all the files and folders on the PC. In some versions of Windows "File Explorer" is called "Windows Explorer". Most people generally only use File Explorer to browse and interact with the documents and other files and folders they create. While it is possible to access files for programs, such as NVDA, or Windows itself in File Explorer, these should be left alone, as changing them can cause things to stop working.

The easiest way to start File Explorer is by pressing **windows+e**. When File Explorer opens, NVDA will read, among other things, "Items view list". Exactly what else it reports depends on the version of Windows and how it is set up. When it opens, there are two main parts to the window, the tree view, and the file list.

The tree view, visually, takes up the left portion of the screen. It contains a list of locations, such as the CD drive or the document folder for saving files. The tree view also shows folders inside the one that is currently open. These are listed in "levels". If the CD drive is level 1, for instance, then folders on the CD drive are level 2, files within those folders are level 3, and so on.

The Items view list takes up the right portion of the screen and shows the contents of the currently selected tree view item. If the CD drive is selected in the tree view, the Items list view will show the contents of the CD drive. When File Explorer starts, the focus is in the Items View list. Depending on how File Explorer is set to start, the "Items View" may show frequently used files, devices or another folder.

To navigate between sections of File Explorer, press **tab** or **shift+tab**. NVDA will report the name of the current section. When the focus moves to the Tree view for instance, NVDA will report, among other things "Tree View". Exactly what else is read will vary between PCs. To navigate within the current section such as the tree view, press the **arrow keys** or the first letter of the desired item. The currently selected item can be activated by pressing **enter**.

If using a braille display, when the focus is in the "tree view" it will display "tv", and when in the Items view list it will display "items View lst".

Because a lot of information is read as the focus moves around File Explorer, pressing **NVDA+tab** can be used to announce the current item with focus. Press **NVDA+up arrow** (laptop: **NVDA+I**). to read the name of just the folder or item which has focus.

Activity: Opening File Explorer

1. Press **windows+e**. File Explorer will open.
2. Press the **down arrow** several times slowly. As you press the **down arrow** you will move through the contents of this folder. Listen for the item names and see if any sound familiar.
3. Press **shift+tab**. The focus moves to the "tree view".
4. Press **NVDA+tab** to read the currently focussed item. Listen for the key word "Tree View" and confirm that this is where the focus is.
5. Press **NVDA+up arrow** (laptop: **NVDA+I**). NVDA will read the name of just the folder or item which has focus. The contents of this folder are what we initially started browsing through in the items view list in step 2.
6. Press **alt+f4** to close File Explorer.

8.2 Navigating the Tree View

Folders are the key to keeping things organised on the computer. Folders can hold both files and other folders.

Programs on the computer are sorted into folders. For instance, there is a folder called "Program Files" (or "Program Files (x86)" on some PCs) where programs are installed. Inside this is a folder called "NVDA". This is where all the NVDA files are kept, including the executable file to run the program. Inside the NVDA folder is a folder called "Documentation". In there are folders for each language; for instance, "en" for English and "fr" for French. Inside each of those folders are the files for the user guide, key commands reference and information about changes in recent NVDA versions in that language. The easiest way to get that information is from NVDA's "Help" menu, but it is a good example of folder structure. Each level of the tree tends to get more specialised. For instance, Under the programs installed on the computer, is NVDA. Inside the NVDA folder is a folder for its documentation. Inside NVDA's document folder are folders for documentation in each language.

The tree view shows a list of folders and other items on the computer. Each folder in the list may be "expanded" or "collapsed". Where items are expanded, the sub-folders inside them are included in the list underneath them. If folders are collapsed, the sub-folders are not visible.

For instance, with the focus in NVDA's documentation folder, if it is expanded, press **down arrow** to move through the language folders. If NVDA's documentation folder is collapsed, **down arrow** skips past all the language folders directly to the next folder.

Press the **right arrow** to expand a collapsed folder. If the folder does not have any sub-folders, then nothing will happen. If the folder was already expanded, then the focus will move to the first sub-folder. When a folder is expanded, NVDA will announce "Expanded" and the number of items which are inside the folder. Collapse a folder by pressing the **left arrow**. If the folder does not have any sub-folders, or if they are already collapsed, then the focus moves up one level.

In braille, a collapsed item displays a plus sign (+), indicating that it can be expanded. Similarly, an expanded folder is indicated by a dash/minus sign (-).

If the current folder is expanded, press the **down arrow** to move the focus to its first sub-folder. If the folder is collapsed, or does not have any sub-folders, the focus moves to the next folder. NVDA will report the "level" you are at in the tree view. The topmost level is called "Level 0"; the next level under that is "level 1"; then "level 2" and so on. In braille, "level" is abbreviated to "lv".

One of the most important folders is the Documents folder. When saving files in many programs, such as WordPad, the Documents folder is used by default unless a different location (for example a memory stick) is specified.

Instead of using the **down arrow** to move through items, a letter can be pressed to jump straight to the next item beginning with that letter. The Documents folder can be found by opening File Explorer, moving to the tree view by pressing **shift+tab** once, then pressing **d** until "documents" is reported. If the folder an item is in is collapsed, it will need to be expanded before the first letter will locate the folder. On some versions of Windows, the documents folder is in a folder called "This PC", and on others, it is inside a folder called "Libraries".

Let's explore the tree view now and find the "documents" folder:

Activity: Exploring the tree view

1. Press **windows+e** to open File Explorer.
2. Press **shift+tab** to move to the tree view.
3. Press the **down arrow** to explore the items and notice the "level" reported for each.
4. Press **t** and note the name of the item that NVDA reads. If it is "This PC" then skip the next step.
5. Keep pressing **t** until NVDA reads "This PC". If NVDA gets back to the first item it read, then press **l** until NVDA reads "libraries".
6. Press **NVDA+tab** and listen to whether the item is "expanded" or "collapsed".
7. If it is collapsed, press the **right arrow** to expand it. NVDA will announce "Expanded" and tell you how many items are inside.
8. Press **d** to find the "documents" folder.
9. Press **alt+f4** to close File Explorer.

8.3 Some Common Folders

Each computer is different, but some of the main folders that many computers have are:

- Local Disk (C:)
- CD-ROM or DVD-ROM
- Removable Disk
- Locations, such as Documents or Downloads

Local Disk (C:) is the computer's first hard drive. Some computers have more than one hard drive (e.g., "Local Disk (D:)"). It is also possible to rename hard drives in which case they may be something other than "Local Disk". On some PCs, Local Disks and any other hardware drives are grouped under a folder called "This PC" and on others they are grouped inside a folder called "Computer" or "My Computer".

CD and DVD drives will usually have something like "CD" or "DVD" somewhere in their name, though not necessarily at the start. Alternatively, it may be the drive manufacturers name or a model number only. If a disc is inserted, CD and DVD drives will likely identify as the name of the disc (or "Audio CD" for music).

If there is a memory stick or portable hard drive connected to the computer, it may identify as something like "Removable Disk (E:)". Some manufacturers name their memory sticks. For instance, "Kingston" brand memory sticks will be called "Kingston" instead of "Removable Disk".

Other locations or folders are often designed for specific types of files; e.g., "Documents", "Music" and "Downloads". On some computers, these folders are grouped in a folder called "Libraries", and on others they are grouped under "This PC".

Your PC may have some of these, or more than one of some, or completely different options.

Once the desired folder is located, press **enter** to load it, then press **tab** to move to the items view list. The items view list shows the contents of the folder. If **enter** was not pressed, the items list view will still contain the contents of the previously loaded folder.

Let's open File Explorer again and see what we can recognise now.

Activity: Exploring folders

1. Press **windows+e** to open File Explorer.
2. Press **shift+tab** to move the focus to the tree view. Ensure NVDA reports "Tree view" as well as the name of the item which has focus (press **NVDA+tab** if you wish to confirm where you are).
3. Press the **down arrow** and browse through the drives and locations. See which you can recognise after reading this section.
4. Once you have explored the tree view, locate the "This PC", "Computer", or "My Computer" folder. Remember, you can use the first letter or the arrow keys. Your computer will have only one of these folders.
5. Press **enter** to load the folder. Remember, if we don't do this, when we go back to the items list, it will still contain the contents of the previous folder.
6. Press **tab** to move back to the items list.
7. Press the **down arrow** to move through the list of items. It will contain a list of devices connected to your computer and possibly other folders as well.
8. When you have finished exploring, press **alt+f4** to close File Explorer.

8.4 Opening Files with File Explorer

The previous activities which involved saving files in Wordpad have only specified a name for the file, such as "Mars life" with our initials. The computer automatically adds a full stop and three or four letters to the end of each file name. These letters at the end of the name are called a file "extension". The file extension tells the computer what kind of file it is. Depending on how the computer is setup, it may or may not read out the extension for each file. For WordPad files, for instance, the extension it uses is ".rtf". Many music files have an ".mp3" extension. Photographs have ".jpg", and Documents from Microsoft Word have ".docx".

File manager lists all the files in a folder. To open a file, use the **arrow keys** to select it, and press **enter**. The "extension" will tell Windows which program to open the file with.

This is a useful way to open something when its location is known, but not what kind of file it is (for instance, if someone gives you a file on a memory stick). Programs can also be run from File Explorer directly by pressing **enter** on an executable file.

In this activity, we shall open Windows Explorer, and use it to find and open the "Mars life nn" file we saved recently in the documents folder.

This activity uses File Explorer to open the file about life on Mars from the documents folder.

Activity: Opening a file in File Explorer

1. Press **windows+e** to open File Explorer.
2. Press **shift+tab** to move to the tree view. Ensure NVDA reports "Tree view" as well as the name of the item which has focus (press **NVDA+tab** if you wish to confirm where you are).
3. Press **d** until NVDA reads "Documents".
4. Press **enter** to load the "Documents" folder. The focus does not move, but the documents folder will now be loaded in the items view, ready to move to next.
5. Press **tab** to move to the list view. This contains the contents of the Documents folder. This is where we have been saving our files.
6. Press the **down arrow** to move through the items in the Documents folder. Use the **arrow keys** to find the "Mars life nn" file.
7. Press **enter** to load the "Mars life nn" file. Windows knows which program to use to open the file, so WordPad will open with the "Mars life nn" file automatically.
8. Read the file, then close WordPad. Note that when you close WordPad, the focus returns to File Explorer.
9. Press **alt+f4** to close File Explorer as well.

8.5 The Save As and Open Dialogs

The "Save As" or "Open" dialogs in WordPad, and many other programs, are small File Explorer windows. Many of the commands and features of File Explorer can be found in these dialogs as well.

A couple of things are set out slightly differently. The Save As and Open dialogs have a file name edit which the focus starts in. Press **shift+tab** once or twice (depending on the way it is setup), to get back to the items view. Press **shift+tab** once more to get to the tree view. Navigate around the tree and list views to find the file or folder in the same way as in the previous activities

Activity: The Save As and Open dialog

1. Open WordPad.
2. Press **control+o** to open the file Open dialog.
3. Press **shift+tab** until the focus is in (and NVDA reads) "tree view".
4. Press the **down arrow** to move through the drives and locations just as we did last activity. This list should look the same as it did last activity.
5. Press **d** until the focus is on the "Documents" folder.
6. Press **enter** to open this folder (It was likely already open, but it is a good habit to get into).
7. Press **tab** to move to the items view.
8. Find the "Mars life" file used earlier, and press **enter** to open it.

9. Read through the file, then press **alt+f4** to close WordPad.

8.6 Creating a New Folder

As well as keeping programs and system files sorted, folders can be created in File Explorer to organise user files into.

In activities so far, documents have all been saved in the default "Documents" folder. Creating folders inside the main documents folder makes it easy to keep things sorted.

A gardener, for instance, might keep a file with notes on each plant they grow. They could create a folder under Documents called "plants". In the plants folder there could be folders for "flowers", "herbs" and "vegetables". The "flowers" folder might then have a folder for each type of flower ("roses", "daisies", etc.). If there weren't many herbs, instead of individual sub-folders, the folders for each herb might be kept directly under the "herbs" folder.

In File Explorer, to create a folder, press **control+shift+n**. The new folder will be created inside the currently active folder. It is good practise to find the location in the tree view first (e.g., "Documents"). Next, press **enter** to load it and then press **tab** to move across to the items view. This ensures that the focus is in the correct folder before pressing **control+shift+n**.

When creating a new folder, an edit box appears in which the name to give the new folder can be entered. The edit box starts off with the temporary name "New folder", which is selected. Remember the warning about typing characters with text selected? Anything typed at this point will overwrite the selected text. In this case that is the desired result. When typing a name for the folder, it automatically deletes the selected temporary "New folder" name.

Let's try it now:

Activity: Creating a new folder

1. Press **windows+e** to open File Explorer.
2. Navigate to the "Documents" folder (Press **shift+tab** to move to the tree view, then **d** until the focus is on "Documents").
3. Press **enter** to load the folder.
4. Press **tab** to move the focus to the list view.
5. Press **control+shift+n** to create a new folder. NVDA reads "Edit" and "Selected New Folder", informing us that we are in a text edit field and that it contains the text "New Folder" which is selected.
6. Type the name "Practise nn" where "nn" is your initials. The "New Folder" text is deleted as you start typing.
7. Press **enter** to confirm the name.
8. Press the arrow keys to explore the files in the Documents folder, and that the "Practise nn" folder is here as a sub-folder in the Documents folder. Leave File Explorer open as we'll come back to it next Activity.

8.7 Moving and Copying Files

After creating a folder, one of the next tasks commonly undertaken is moving files into that folder to keep them together.

Selecting, copying and moving files in File Explorer is done the same way as previously covered to work with blocks of text in WordPad. Press **control+x** to "cut" files for moving. Press **control+c** to "copy" files to make another copy of them. Then, navigate to a new folder and press **control+v** to "paste" the cut or copied files to the new location. While moving through files with the arrow keys, hold down **shift** to select multiple files.

From inside a folder, press **alt+up arrow** to move back out of the folder to its "parent" folder.

Let's move the "Mars life" file to the new folder created last activity:

Activity: Moving a file

1. Make sure File Explorer is open and the focus is in the items view of the "Documents" folder where we left it after last activity.
2. Find the "Mars life nn" file (remember, "nn" is your initials).
3. Press **control+x** to "cut" the file.
4. Locate the "Practise nn" folder you created last activity.
5. Once the focus is on the "Practise nn" folder, press **enter** to go into it.
6. Press **control+v** to "paste" the "Mars life nn" file. NVDA will report the file name and that it is "1 of 1" as this is the first file we've put here.
7. Press **alt+up arrow** to move the focus back up to the "Documents" folder.
8. Press **m** and the arrow keys and ensure that the "Mars life nn" file is no longer here.
9. Close File Explorer.

8.8 Renaming Files and Folders

Existing folders can be renamed. First, select the folder to be renamed in the items view, then press **f2** (function key f2). The current name turns into an edit box with the existing name selected (just as the "New folder" name was when creating a folder in the previous topic). Either type a new name from scratch to overwrite the old name, or use the **arrow keys** to move through and edit the existing name.

Some computers show the file extensions (for instance, the ".rtf" at the end of the "Mars life nn" file used in previous activities). If this is displayed, it is important not to change this part of the name when renaming the file. The extension won't be selected when renaming, and Windows will warn if you try to change the extension.

Finally, when navigating the items list view in File Explorer, press **enter** to go into a folder. NVDA reads the first filename, but it is not selected. NVDA reads that it is "not selected". To move to another file, Press the **arrows** or first letter as used previously. To select that first file, press the **spacebar**.

Let's practise renaming now:

Activity: Renaming files

1. Open File Explorer and navigate to the items view of the "Documents" folder.
2. Make sure you are in the items view, find the "Practise nn" folder and press **enter** to go into the folder. NVDA will read "Items view list, Mars life nn, 1 of 1, not selected".
3. Press **spacebar** to select the file.
4. Press **f2** to rename the file. NVDA will read "Edit, selected Mars life nn".
5. Type *Mars story nn* and press **enter** (replace nn with your initials).
6. Press **alt+up arrow** to move up to the "Documents" folder. The focus returns to the "Practise nn" folder in the documents folder.
7. NVDA reports numerous details when changing folders, and it can be easy to miss the name of the file or folder with focus changing folders. Press **NVDA+tab** to read just the current item.
8. Press **f2**. NVDA will read "edit" and "selected Practise nn".
9. Type *exercises nn* and press **enter**.

8.9 Basic File Management Review

This section covered some of the key features of File Explorer and important file management concepts:

- Using File Explorer
 - Opening File Explorer
 - Layout of the File Explorer window
 - Navigating around File Explorer
- Accessing File Explorer via the Save As and Open Dialogs
- Understanding files and folders
 - Common folders on your computer
 - Opening a file from File Explorer
 - File extensions
 - Navigating around folders
 - folder structure
 - Creating a folder
 - Renaming a file or folder

Activity: Basic file management review

1. Open File Explorer.
2. Navigate to the "Documents" folder.
3. Find the "Document editing" file you created earlier.
4. Rename the file to "NVDA editing commands nn" (where nn is your initials).
5. Move the "NVDA editing commands" to the "exercises nn" folder.
6. Go into the "exercises nn" folder and create a folder inside it called "Backup".
7. Copy the files from the "exercises nn" folder into "Backup". (This is a good way of keeping a backup copy of your files, though having a copy on a

memory stick or external hard drive will ensure you have a copy if your hard drive fails.)

8. Close File Explorer.
-

9 Multi-Tasking

The aim of this section is to cover how to work effectively with more than one program at a time.

Goals for this section:

- Multi-tasking
- Using **alt+tab** to move between running programs
- Navigating the taskbar
- Using shortcut keys to access running and pinned programs
- Pinning items to the taskbar
- Accessing the notification area

9.1 Switching Between Programs

It is possible to have more than one program open at once and switch between them. This makes it possible to, for instance, refer to information in another program without closing a document being written. Information can also be copied from one program to another in the same way as copying text from one place to another within the one document.

Opening a second program is done as covered previously to open programs. To open from the Start menu, press the **Windows key**.

To open from the desktop, the focus needs to move to the desktop first. To minimize everything and move the focus to the desktop, press **Windows+M**. Then locate the program to run with the **arrow keys** and press **enter** to launch it.

To switch between open programs, press **alt+tab**. That is, hold down **alt**, press **tab** and then let go of both keys. As with many other places on the computer, move backwards by adding **shift**; that is, press **alt+shift+tab**.

NVDA will announce the name of the program you have switched to. Let's try it now.

Activity: Switching between programs

1. Open WordPad.
2. Type the following lines:

Comet flying,
Through outer space.
It goes so fast,
but it's a big place.

3. Save the document into the "exercises" folder you created earlier, and call it, "The comet".
4. Leave your document open in WordPad.
5. Press **windows+e** to open File Explorer.
6. Navigate to the "exercises" folder and move through the list of files. See that "The comet" file you just created is in there.
7. Press **alt+tab** to move back to WordPad and note NVDA reading the filename and where the focus is.
8. Press **alt+tab** to move back to File Explorer. Note NVDA read the name of the current folder and which section of File Explorer (Items view list) has focus. Leave both programs open to come back to next activity.

9.2 Moving Between More than Two Programs

Pressing **alt+tab** works well to quickly move between open programs. When the keystroke is pressed and released quickly, the focus returns to the last window which had focus. To move between more than two windows, hold down **alt**, tap (press then release) **tab**, then with **alt** still held down, continue to tap **tab**. Each time **tab** is tapped, NVDA will announce the next open window. When the desired window is announced, release both keys. Once the last open window is reached, the first window will be reported again. Let's practise using **alt+tab** now.

Activity: Moving between more than two programs

1. Press **NVDA+t** to check that you are still in the File Explorer list view from last Activity.
2. Press **alt+tab** to make sure both File Explorer and WordPad with "The comet" document are still open.
3. Open a new copy of WordPad (Press **Windows**, type *WordPad*, then press **enter**).
4. Press **alt+tab**. The focus moves to "The Comet" document you had open.
5. Press **alt+tab** again. The focus moves back to the new document. Pressing **alt+tab** will keep moving between these two windows only, even though there is at least one more window open.
6. Press **alt**. Hold it down and tap **tab**. Release only **tab** but keep **alt** held down. NVDA will announce the other WordPad window.
7. Tap **tab**. Let go of **tab** but again keep **alt** held down. NVDA should announce the folder we had the File Explorer window open at.
8. Keep tapping **tab** until you have moved through all the open windows and NVDA again announces "The comet - WordPad".
9. Let go of both keys. NVDA will confirm the focus is in "The comet - WordPad" and the location of the focus.

9.3 The Windows Taskbar

Visually, the bottom of the screen is taken up by the taskbar. This comprises (from left to right):

- The Start button
- Running applications
- The notification area

The Start button is in all versions of Windows except 8. Mouse users can click on this and it brings up the Start menu the same as pressing the Windows key.

Running applications is the main section of the Task Bar and contains pinned items and running programs. Pinned items are shortcuts to launch programs. Running programs are icons for programs which are currently running. Activating running programs returns focus to the selected program, the same as **alt+tab**.

The notification area is on the far right of the taskbar. This contains (visually smaller) icons for programs which run all the time in the background. For instance, NVDA, the volume control, the internet or Wi-Fi connection and the clock. This is also known as the Notification Area.

To move the focus to the pinned and running items in the taskbar, press **windows+t**. From there, use the **arrow** keys to move between items and **enter** to launch or move focus to the selected program.

Let's explore the taskbar now:

Activity: Using the taskbar

1. Use **alt+tab** to move through the running programs and confirm everything is still open from the previous activity.
2. Press **windows+t** to move the focus to the taskbar. (The first item NVDA reads is the one you could also access via **windows+1**.)
3. Press the **right arrow** to move through the items on the taskbar. Note any pinned items which weren't in the **alt+tab** list.
4. Locate the "The Comet" WordPad document and press **enter** to move the focus to it.
5. Press **alt+f4** to close the program.
6. Press **alt+tab** to move to the next open window.
7. Repeat the previous two steps until there are no more open Windows. (Some computers will include an item called "Desktop" in the alt+tab list. Do not close this item, but instead move to the next open window).

9.4 Pinning Items to the Taskbar

Knowing where on the taskbar a program is, a shortcut to go to it directly is by pressing **windows+number**. That is, press **windows+1** for the first item, **windows+2** for the second item and so on.

Items which are pinned to the taskbar always appear first. To pin an item to the taskbar, bring up the Start menu, type the program's name, press the **applications** key and choose "Pin to Taskbar". The **applications** key is sometimes called the "context menu"

key. Generally, it is to the right of the **spacebar** on a full-size keyboard, in between the right **windows key** and the **control** key.

Note that if there is no "Pin to Taskbar" option but there is "Unpin from Taskbar" then the item is already pinned to the Taskbar.

Items can be unpinned from the Taskbar when no longer required. The process is the same as to pin items to the taskbar. Press **windows+t**, find the item on the Taskbar, press the **applications** key, then finally choose **unpin from taskbar**.

Let's try that with WordPad now:

Activity: Pinning items to the taskbar

1. Open the Start menu and type *WordPad* (but don't launch it).
2. Press the **applications** key.
3. Press the **down arrow** key until NVDA reads "Pin to taskbar".
4. Press **enter**.
5. Press **windows+t**. NVDA will report the first item in the taskbar (You could also access this item with **windows+1**).
6. Press the **right arrow** key. The next item corresponds to **windows+2** and so on.
7. Find WordPad. Note where in the taskbar WordPad is.
8. Press **windows+number** where number is the number you worked out in the previous step.

9.5 The Notification Area

The last part of the taskbar is the notification area. The notification area contains icons for programs which are always running in the background, but which may not need to be interacted with as often as the programs on the main part of the taskbar.

When NVDA is running, it has an icon in the notification area. Some other programs, such as anti-virus or cloud backup services also place icons in the notification area. Not all anti-virus or cloud backup programs put an icon in the notification area. Some versions of Windows (such as Windows 10) come with their own anti-virus built in. There are also icons with information such as your network connection, the clock and the volume control.

To access the notification area, press **windows+b**. From here, press the **arrow** keys to move between items. Press either **enter** to launch an item or **applications** key to open a menu of options related to that program or item.

As with many areas of the PC, there are often several ways of accessing information. For instance, locating the NVDA icon and pressing **enter** brings up the NVDA menu the same as pressing **NVDA+n**. There is a battery icon here if using a laptop / tablet which reports the current battery level. Another way of finding this out is **NVDA+shift+b**.

In the next activity we shall access the system volume icon. It is strongly recommended that you have external speakers or headphones with their own volume control. Adjusting the volume of NVDA and other sounds is much easier with a hardware control than via the "speakers" notification area icon. Let's explore the notification area now:

Activity: Adjusting the volume control in the notification area

1. Press **windows+b** to move the focus to the notification area. NVDA will read the first item.
2. If you are using a laptop, locate the battery icon and note the information read out.
3. Press **NVDA+shift+b**. If you have a laptop, the information read out should be the same as the previous step. If you are using a desktop, NVDA will read "No system battery".
4. Press the **right arrow** to move through the items.
5. Keep pressing the **right arrow** until the focus is on the "speakers", "headphones" or "volume" icon.
6. Press **enter**. A small dialog box appears which only contains a slider to adjust the volume.
7. Press the **down arrow** to lower the volume and note the sound made each time you change the volume.
8. Adjust the volume back up until you are comfortable.
9. Press **escape** to close the dialog box when you are finished.

9.6 Multi-Tasking Review

This section covered a lot of the key concepts involved in multi-tasking and working efficiently with more than one program at once. Also covered was the notification area, which is particularly helpful for accessing programs which work in the background.

- Multi-tasking
 - understanding that multiple programs can be running simultaneously and that you can switch between them
 - Using **alt+tab** to quickly switch between programs
- The Windows taskbar
 - understand what the Windows taskbar is and the sections it has
 - know how to navigate through pinned and running programs
 - know how to pin items to and unpin items from the taskbar
 - know how to access system functions and background applications using the notification area
 - know how to adjust the system volume

Activity: Multi-tasking review

1. Open WordPad from its taskbar item.
2. Write the heading "Multi-tasking" and then a sentence on each of the following:
 - Two ways to use **alt+tab**

- What information is in the taskbar
 - Two ways of opening the 2nd item in the taskbar
 - How to pin an item to the taskbar
 - How to access the volume control.
3. Find the "WordPad" item in the taskbar and unpin it.
 4. Save the file as "Multi-tasking" in your exercises folder.
 5. Use **windows+t** to count how many items are in the taskbar.
 6. Open File Explorer and confirm the "Multi-tasking" file you just saved is in your own exercises folder.
 7. Switch back to your WordPad document.
 8. Close all running programs.
-

10 Browsing the Web

The aim of this section is to cover the basics of using the web. To complete the activities in this section, a connection to the Internet is required. Many computers are automatically connected to the Internet. If you need help with connecting to the internet, please talk to your trainer or technician.

Goals for this section:

- Be able to open Internet Explorer
- Navigate a web page with standard document reading keys
- Awareness of what a link is and how to activate one
- Understand the different types of elements found on web pages and how to move to them with single letter navigation keys and the elements list dialog

10.1 Opening Internet Explorer

The Internet enables computers and other devices all over the world to connect to each other. This makes it possible to look up information on databases overseas, buy goods and services and communicate with friends and others with similar interests.

One of the most common ways of accessing the Internet is with a "web browser". Windows comes with a web browser called "Internet Explorer" which we shall use to access the Internet. Firefox is a third-party web browser which works very well with NVDA. It does have better accessibility support for some web applications. Chrome is another third-party web browser. If you are interested in setting up Firefox or Chrome, ask your trainer / technician. Windows 10 comes with a browser called "Edge". The activities in this section will work in most browsers. If not using Internet Explorer, remember to search for the browser name (e.g., "firefox") from the Start menu to open it instead of "internet explorer".

We'll open Internet Explorer from the Start menu search box, but let's practise pinning it to the Taskbar as well. Note that on some computers, Internet Explorer is already pinned to the Taskbar. In that case, when you get to that step you will see "Unpin from Taskbar" instead of "Pin to Taskbar".

Note also that if Internet Explorer has not been used on the computer before, you may get a message inviting you to set it up. This is done using the dialog box navigation keys covered previously (see the "[Basic NVDA Configuration](#)" section). Use **tab** and **spacebar** to change options and **enter** to activate the "next" button or ask your trainer for assistance.

Activity: Opening Internet Explorer

1. Press the **windows key**.
2. Type *Internet Explorer*.
3. Press the **applications** key.
4. Press **down arrow** and look for "Pin to Taskbar".
5. If "Pin to Taskbar" is available, press **enter**.
6. Press **windows+t** to move to the Taskbar.
7. Press the **right arrow** to find "Internet Explorer". Note its position in the Taskbar, so you can use **windows+number** to start it directly in future.
8. Press **enter** to start Internet Explorer. Once it has loaded, NVDA will read the program title, Internet Explorer. If Internet Explorer displays the message, "Welcome to Internet Explorer", then this is the first time that Internet Explorer has been run on this computer. Either follow the prompts using the dialog box reading commands covered previously or ask your trainer for assistance.
9. Close Internet Explorer.

10.2 Web Pages

A web browser like Internet Explorer is designed to view web pages.

A single "web page" is usually written around one idea or point. NV Access (who make NVDA), for example, have created a web page which lists the new features in the latest version of NVDA.

Each web page has its own address. A "web site" is a group of related pages. The main page of the site is usually the one listed in advertising. For NV Access this is <http://www.nvaccess.org/>

When we started Internet Explorer last Activity, as well as telling us the program, it likely also read out a web address. Some people have a search engine such as "Google" open automatically or their company page. This is called the browser's "home" page.

Press **alt+d** to move the focus to the address bar. The current page address is selected ready to be copied or replaced. Type a new address or search query to overwrite the old one, and press **enter** to load it.

When **enter** is pressed, Internet Explorer will load the page. How quickly it loads will depend on several factors, particularly the speed of your Internet connection. It may load almost instantly, or it may take longer.

When the page loads, it will start reading automatically. You may want to press **control** to stop it speaking.

You can use the regular reading keys to read text on the web just like reading documents in WordPad:

As used elsewhere, press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read from the current point on.

Let's try loading a page now:

Activity: Opening a web page

1. If you remember the position of Internet Explorer in the taskbar from last activity, press **windows+number** to start it. Otherwise:
 - A) Press **windows+t** to move to the taskbar.
 - B) Press **right arrow** to move through the items until you find "Internet Explorer".
 - C) Press **enter** to start Internet Explorer.
2. Press **control** to stop NVDA reading the page.
3. Press **alt+d** to move to the address bar.
4. Type www.nvaccess.org
5. Press **enter**. Internet Explorer will load the NV Access home page.
6. After the page loads, NVDA will start reading automatically. Press **control** to stop NVDA reading.
7. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line.
8. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read from the current point onwards.
9. Press **control** to stop NVDA speaking after a couple of lines. Leave Internet Explorer open to come back to next activity.

10.3 Browse Mode Document Reading Keys

In WordPad, as well as being able to read the text in a document, the contents can also be edited. When reading web pages in a browser, the content cannot be changed. NVDA uses "Browse mode" to read documents such as this which cannot be edited.

In Browse mode, move around the page using the standard text navigation keys, the same as in WordPad. The **arrow keys**, **home**, **end**, **page up**, etc. all work. When a web page loads, NVDA starts reading it automatically. After pressing **control** to stop speaking, **Control+home** is particularly useful as it moves the focus back to the top again.

Because the way web pages are displayed visually is often quite complex, using these navigation keys may not place the focus exactly where expected for a sighted user. For example, pressing the **down arrow** may move the focus to a different point on the next line than the character which is visually directly below the current character.

Text can be selected and copied from a web page. Use **shift** in combination with the navigation keys to select text. Press the copy command of **control+c** to copy the selected information. Press **alt+tab** to change windows. Press **control+v** to paste the information into a WordPad document, an e-mail or another program.

It is also possible to find out the formatting of the current text by pressing **NVDA+f**. Note that it is not always possible to determine the exact font. If NVDA can't get precise information, it may read several font names or advise that it cannot get formatting information.

Activity: Browse mode document reading keys

1. Make sure Internet Explorer is still open and the NV Access page is loaded from the last activity. Press **control+home** to move the focus to the top of the document.
2. Press **control+right arrow** to move through the first couple of lines word by word.
3. Move back to the top of the page and press **NVDA+f**. NVDA will read the formatting of the current text.
4. Select the first two lines (hold down **shift** and press **down arrow** twice).
5. Copy the text to the clipboard (press **control+c**).
6. Open WordPad.
7. Paste the text (press **control+v**).
8. Read through the pasted text.
9. Close WordPad and then close Internet Explorer.

10.4 Heading Navigation

During the previous activity, NVDA read information like "Heading level 1" before reading the "NV Access" heading. Most web pages use "headings" to indicate what different parts of a page are about (visually "heading level 1" text is the biggest, "heading level 2" is slightly smaller and so on). There can be up to six levels of headings on a page to separate different topics and sub-topics.

There are two ways of navigating around headings. One is to press the letter **h**, which takes you to the next heading (**shift+h** takes you to the previous heading). The other is to press the numbers **1** to **6** to move to the next heading at that level (press **2** to move to the next heading level 2, for instance). Press **shift+number** to move to the previous heading at that level. After reaching the last heading, NVDA will read "No next heading" or "No next heading at level 2".

Let's try moving around headings now. We'll open the NVDA User guide, which you can get to from the NVDA menu:

Activity: Heading navigation

1. Open the NVDA menu (**NVDA+n**).

2. Open the "Help" sub-menu and choose "User Guide". This will launch the default browser and load NVDA's user guide. If it launches another browser (e.g., Microsoft Edge), ask your trainer for assistance.
3. Press **h** to move through the headings. Note that on this page, the main page heading is level 1. Topics are heading level 2 and sub-topics are heading level 3. Remember, other web pages you encounter may be set out differently.
4. Press **2** to move through the first 8 main topics.
5. Press **shift+2** to move back to "Getting started with NVDA".
6. Let's look at the sub-topics for topic 4, "Getting started with NVDA". Press **3** to move through these. Notice how after 4.7 it jumps straight to 5.1, skipping the level 2 heading for topic 5.
7. Move to the address bar (press alt+d) and type: www.nvaccess.org
8. Press **enter** to load the page, then **control** when it loads to stop it reading.
9. Explore the headings on this page. What would be the best way to get down to the "News" section?

10.5 Web Page Links

Most web pages link to other pages. It is often possible to follow a trail from one link to another to another and sometimes even back to the original page, hence the concept of "the web".

A "web site" may be made up of one or many pages, usually linked to each other. The NV Access web site contains many pages of information about NVDA, including the latest features, help on using it, awards it has won, how to obtain it, etc.

Near the top of each page is a set of links to other pages on the site so it is easy to move from one area to another. This is identical on each page on the site and is called a "navigation bar". It is a common feature of most websites with more than one page (though exactly where it is and how it is set out differs).

There are also links to other web sites entirely. For instance, many sites have links to follow them on popular "Social media" platforms like Twitter and Facebook.

Just as **tab** moves between items in a dialog box, it can also be used to move between links, buttons and other interactive items on web pages. When the focus is on a link, if using a braille display, it will indicate the link with the abbreviation "lnk".

By default, NVDA will attempt to read pages close to their original format. For instance, if there are three links on one line, NVDA will consider them on one line. It is possible to set NVDA to ignore this and treat each element (e.g., each link) as its own line. This is called "Screen layout". To toggle screen layout, press **NVDA+v**.

The next activity, and indeed most of this section, will use the NV Access site. Being familiar with one specific site will reinforce how some of the navigation commands we shall cover work differently from each other. The skills covered, however, should work with most sites, although each will be setup differently.

Activity: Using Web Page Links

1. Make sure that Internet Explorer is still open, and the NV Access site is still loaded from the previous activity.
2. Press **control+home** to move to the top of the page.
3. Press **tab** to move to the "Get Help" link in the navigation bar.
4. Press ENTER to activate the link.
5. Press **h** to move through the headings to see the main sections of the page. Stop when you get to the "Training" heading.
6. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read about the training guides, including the Basic Training for NVDA module you are working through.
7. Move to the top of the page (**control+home**). Press **tab** to move to the "Corporate & Government" link and press **enter** to activate it. NVDA reports "Expanded".
8. Press **tab** again and NVDA reads the first option in this "sub-menu", which is "Corporate / Government procurement and Rollout". Press **enter** to load this page.
9. Leave Internet Explorer open to return to next activity.

10.6 Single Letter Navigation

So far, headings have been used to find the main parts of a web page. There are many other elements which can help find different parts of a web page. NVDA assigns many letters of the alphabet to jump to specific types of information on a page. Because each web site is written differently, jumping between headings might work well on one page, but on another, using landmarks will work better.

The previous topics have introduced the following single letter navigation keys:

- **h**: to jump to the next heading.
- **1 to 6**: to jump to the next heading at a specific level.
- **tab**: to jump to the next link, button or item you can interact with.

Some of the other main types of elements with single letter navigation keys include:

- **d**: landmark. Jumps to the next landmark, often used at the start of each section of a page (e.g., the navigation bar or main section), rather than a specific type of element.
- **g**: graphic. Jumps to the next image.
- **l**: list. Jumps to the start of the next list.
- **i**: list item. Jumps to the next list item (so you can use **l** to jump between lists, and **i** to jump from one item in a list to the next).
- **n**: non-linked text. Jumps to the next piece of text which is not a link. This can sometimes be a way to get to the important information on a news article, for instance.
- **k**: link. Like **tab** but only jumps to links where **tab** moves to other items as well.

- **v**: visited link. The next link that you have previously been to.
- **u**: unvisited link. The next link that you have not previously been to.
- **t**: table

As with headings, pressing **shift** with any of the letters above takes the focus backward to the previous element of that type (e.g., **shift+d** moves to the previous landmark).

Elements can be combined, so a heading may also be "non-linked" text or a graphic may also be a link.

There are additional single letter navigation keys listed in the [NVDA User Guide, section 6.1](#) which may assist with navigation on some pages.

This activity involves navigating to a "table of contents", which contains links to information on the current page. Links can be to external pages or websites, and they can also be to other sections on the current page. Links to the other sections on the same page behave the same as other links.

Activity: Single letter navigation

1. Ensure Internet Explorer is open to the NV Access Corporate & Government support page from the previous activity.
2. Press **d** and move to each landmark on the page. Note how it jumps straight to the start of each logical section.
3. Press **control+home** to move back to the top of the page.
4. Press **n** to look for non-linked text. The focus goes to the phrase "Corporate & Government" which is the Main landmark (so we could have used **d** again). This text is also a heading level 2, so on this page there are a few ways of getting to that same point.
5. Press **down arrow**. Note that there is more text here which is non-linked, but NVDA only reads the first part. It is up to you to keep reading down if you wish.
6. Press **h** to move through some of the headings on the page.
7. Press **shift+d** to move back to the main landmark.
8. Press **l**. The focus moves to the first item in a list of sections on this page. Reading the line above with **up arrow** confirms this is the table of contents of this page.
9. Leave Internet Explorer open to return to next activity.

10.7 The Browse Mode Elements List

In browse mode, NVDA can display an Elements List dialog by pressing **NVDA+f7**. The elements list displays all the links, headings, form fields, buttons or landmarks on a page. The elements are presented in a list which can be navigated by **arrows** or by pressing the first letter of the desired element.

This is very handy if the name of the item to move to is known. If a page has a "contact us" link, for instance, press **NVDA+f7**, then press **c** to jump straight to the first link beginning with "c". If this isn't the "contact us" link (the site might have more than one

link beginning with the same letter) then keep pressing **c** until the focus is on the right one. Note that if the site changes the wording of the link to "E-Mail us" then looking with "c" will not find it.

Because the links in the elements list are in the same order they are on the page, the context of a link can still be useful when locating it. This is particularly useful with well-known sites.

When a link is located, either press **enter** to activate it, or **alt+m** to move the focus to the link on the page without activating it. Let's use the elements list now:

Activity: The Elements list dialog

1. Ensure Internet Explorer is open to the NV Access Corporate & Government page <https://www.nvaccess.org/corporate-government/>
2. Press **NVDA+f7** to open the elements list.
3. Press **home** to move to the top of the list, then **down arrow** to move through some of the items. Note that they appear in the same order as when we read the page previously.
4. Press **s** several times. NVDA reads "Support us" and "shop" from the navigation bar, then the links to sections on this page which begin with S, including "Specific Government Initiatives" and "Secure environments".
5. Ensure the focus is on "Secure environments" and press **enter**. The dialog closes, activating the link, and the focus moves to the "Secure environments" section of this page. Read the first paragraph.
6. There are several ways of getting to sections on this page. Explore by reading down until you get past the next heading. Try using the keys for headings, landmarks and non-linked text that we have looked at. After exploring with each, press **control+home** to move back to the top of the page.
7. Once you have finished, press **NVDA+f7** to open the elements list again.
8. Find the "Get Help" link and activate it. This loads a page with various ways of getting support for NVDA.
9. Leave Internet Explorer open as we shall return to it next Activity.

10.8 More on the Elements List

The Elements List dialog can display "links" as covered in the previous activity, which is the default view. It can also display headings with **alt+h**, form fields with **alt+f**, buttons with **alt+b**, or landmarks with **alt+d**. From these other views, press **alt+k** to display links again. Note how the Elements list shortcuts use **alt** plus the single letter navigation key for that feature. Note that the shortcuts for these in the elements list use **alt** plus the same key as the single letter navigation uses. On a web page, press **k** to move to the next link, **h** for heading, **f** for the next form field, **b** for button, and **alt+d** for the next landmark.

The elements dialog does introduce one new type of control: the "radio button". If using a braille display it will identify these with "rbtn". These work similarly to a check box,

except that in a group of radio buttons, only one may be checked at once. In the case of the elements list, there are radio buttons for links, headings, form fields, buttons and landmarks. The one that is checked determines which type of elements are displayed. Press **tab** to move the focus to the radio button group. The focus will start in the currently selected radio button. Use the **arrow** keys to move between, and automatically check, any of the other options.

The elements are listed in a tree view, like the one used in File Explorer previously. For links, form fields and buttons this is a straight list of items. When listing headings and landmarks, NVDA will indicate the level of each item so the structure of the heading levels on the page is retained.

Press **alt+m** to move the focus to the current item without activating it. While browsing the list of links or buttons, press **enter** or **alt+a** to activate the current item. If browsing headings or landmarks in the elements list, pressing **enter** will move the focus to that element on the page.

Elements can also be filtered within the elements list. With the "contact us" example earlier, you could type *contact* into the filter, and if that didn't work you could try "e-mail" or "email". Access the filter by pressing **alt+e** or pressing **tab** from the elements list. Type the text to be filtered, and then use **shift+tab** to get back to the, now filtered, elements list.

Activity: More on the Elements List

1. Make sure Internet Explorer is open from the previous Activity, with the NV Access Get Help page loaded.
2. Press **NVDA+f7** to open the elements list.
3. Press **alt+h** to activate the "headings" radio button. This changes the list to show all the headings on the page, instead of links.
4. Press **tab** to move back to the tree view and use the **arrows** to browse the list. Note how it indicates the level of each heading.
5. Press **tab** to move to the "filter" edit box.
6. Type *support* in the filter edit box.
7. Press **shift+tab** to move the focus back to the list of headings.
8. Use the **arrow** keys to move through the list. Note how there are only a couple of options now, all with "support" in them.
9. Choose the "Phone support" heading and press **enter**. The focus will move to the Phone support section of the page. Once you have confirmed that you are at the Phone support section of the Get Help page, close Internet Explorer.

10.9 Browsing the Web Review

This section covered the basics of navigating around the web. Topics included:

- Opening Internet Explorer
- Reading a web page
- Moving by heading
- Activating links

- Web page elements
- Using the elements list

Activity: Browsing the web review

1. Open Internet Explorer and load the NV Access site (<http://www.nvaccess.org/>).
 2. Open WordPad and type *Browsing the web* in bold.
 3. Copy the contents of the address bar from Internet Explorer to the clipboard. Move back to WordPad and paste it into the document.
 4. In Internet Explorer, use the elements list dialog to find out how many links are on the page. Type a line in the WordPad document including this information.
 5. In Internet Explorer, move to the top of the page. Use the single letter navigation key to move to the Navigation Landmark.
 6. Move through the landmarks on the page and write a paragraph in the WordPad document explaining the layout of the page.
 7. Explore the web page headings and write another document paragraph describing the difference between navigating by landmark or heading.
 8. In the WordPad document, write a description of three other single letter navigation command letters and what they are used for.
 9. Save the WordPad document as "Web Browsing" and close both WordPad and Internet Explorer.
-

11 Forms on the Web

The previous section covered browsing or reading information on the web. This section builds on that, covering filling in forms to share information back to web pages. To complete the activities in this section, a connection to the Internet is necessary.

Goals for this section:

- Know how to search for specific text on a web page
- Be able to navigate around tables
- Fill in forms

11.1 Searching within a page

Sometimes, finding a specific word or phrase can be the quickest way to get to relevant information on a web page. If the word or phrase is not the first text in a heading or link, it can be difficult to find with tools such as the elements list dialog.

NVDA provides a "find" feature to search for text on a page. It works very similarly to the find command covered previously in WordPad. That command also works on the Internet, but not as consistently.

To find a word or phrase, press **NVDA+control+f**, type the text and press **enter**. The find dialog disappears as soon as **enter** is pressed to perform the search.

If the text is not found, a dialog will appear, advising that the text was not found. Press **enter** to dismiss this "find error" dialog.

When performing a search, the dialog box has a check box to force the search to be case sensitive. To toggle this, press **alt+s** or **tab** to it and press **spacebar** before pressing **enter**.

To search for additional instances of the text, press **NVDA+f3**. To search for the previous instance of the search text press **NVDA+shift+f3**.

Somewhere on the main NV Access page, it states how many languages NVDA works in. This information is in the middle of a paragraph so let's use the find function to locate it:

Activity: Searching within a page

1. Open Internet Explorer and open the "NV Access" page, <http://www.nvaccess.org/>.
2. Press **control+home** to ensure the focus is at the top of the page.
3. Press **NVDA+control+f** to open the "find" dialog.
4. Type *free*. This should find a reference to the cost of NVDA.
5. Press **enter**. NVDA reads "Main landmark" to indicate that the focus is on the main section of the page, and "freely and easily access a computer", the first line of text found containing the word "free".
6. Press **up arrow** a couple of times, and read the text around the found word.
7. Press **NVDA+f3** to search for additional instances of "free". NVDA reports the next instance of the text.
8. Press **NVDA+shift+f3** to search for the previous instance of "free".
9. Close Internet Explorer.

11.2 Filling in Forms

Everything done so far in Internet Explorer has been about reading web pages using Browse mode. It is possible to submit information back to some web pages. Examples include: typing your email address to sign up for a newsletter, searching for information or entering payment details when buying something.

Forms vary in their complexity. A simple search page may have little more than an edit box to type a search query and button to perform the search. A more elaborate registration page might use a combination of edit boxes, check boxes, radio buttons and drop-down lists to collect a range of data.

It is important to be careful with information you provide on the internet. Unscrupulous websites may sell information you provide. Malicious websites may even copy the appearance of legitimate websites to trick people into providing information. Reading the address bar can help confirm the address of a website. It is also advisable to type the address of known websites, rather than activating links in e-mails. Web forms work

similarly to dialog boxes, in that there is usually a default button. This is often called "submit", "search", "login" or similar. To activate this button, either navigate to it and press **enter**, or press **enter** from anywhere within the form to submit.

One of the most common forms people use is the Google search form, often simply called "Google". After loading the page at www.google.com, the focus is on an edit box visually located in the middle. Unlike many pages, once the page loads, the focus is in the edit field, ready to type your query. You can type just about any phrase or question into Google.

Often, when you go into a form field, such as an edit box, NVDA automatically goes from "browse mode" into "focus mode". In Browse mode, you can press single keys, such as "h" for heading or "d" for landmark, to jump to elements in different parts of the page. In Focus mode those navigation keys are not available as focus mode is designed to allow typing any characters into edit boxes. The **arrow keys** are used to navigate through radio buttons, rather than navigate by line or character.

When NVDA goes into focus mode, a click sound is played. When the form is submitted, or if the focus moves out of the form, a lower pitched, short beep sounds as NVDA goes into browse mode.

Let's have a look at Google's search page now. By default, it uses a feature called "Google Instant", which is designed to bring up results as the query is being typed. This can be problematic for screen reader users, so let's take this opportunity to turn that setting off, or ensure it is already off, and then try out focus mode. Because the Google search page may get updated from time to time, it is possible that the steps to complete the below activities may change. If the steps don't work as expected, use your navigation keys to investigate the updated layout yourself and if needed, ask your trainer for assistance.

Activity: Filling in a form

1. Open Internet Explorer.
2. Go to the address bar and load the following page: www.google.com
3. As the page loads, listen for the click indicating that NVDA is in focus mode. NVDA will report "Search combo box editable" (among other things).
4. Press **shift+tab** once. This moves the focus out of the edit box. Listen for the lower beep indicating that we are now in browse mode.
5. Press **h**. NVDA announces that there is "no next heading". If we had been in focus mode, NVDA would not have looked for a heading.
6. Press **control+home** to move to the very start of the page.
7. If NVDA reads: "Link, Screen reader users, click here to turn off Google Instant", then press **enter** to turn off Google Instant and reload the page. Otherwise press **tab** until the focus returns to the search edit. Either way, listen for the click indicating that NVDA has gone from browse mode to focus mode again.
8. Type *When is New Year's Eve?* and press ENTER.

9. Listen for the beep to indicate NVDA going into browse mode as our search query is submitted. Press **control** to stop the whole results page from being read out. Leave Internet Explorer open. We'll come back in a moment to read the results.

11.3 Reading Search Results

Congratulations! You've done your first Google search!

Next, we need to read the results to find out when New Year's Eve is. Google uses landmarks to define the logical sections of the page. We'll use these to get to the "Main" landmark which is where the search results are. If you concentrate on what NVDA reads when we get to the main landmark, you may notice that there is a heading level 2 right before the first result. Think about what keys other than the landmark navigation key could be used to get to the search results.

When you are reading a page that you will use often, noting these kinds of details can save you a lot of time. When you find a point on the page you want to access in future, it can also be worth using the **up arrow** to read several lines before it. If there is not a unique element on the line you want to jump to, there may be one just prior.

Where it can find a single answer, or a reputable page with relevant details, Google will present this information directly first. Following that, Google presents the results; by default, 10 results per page. Each result contains a level 3 heading with the title of the result, the URL in non-linked text and several lines of description or relevant content from the site.

The assumption is that there is only one answer to the question "When is New Year's Eve". It may be that the search is really looking for something else, such as the release date of a movie called "New Year's Eve". For this reason, Google still provides a list of web results.

Activity: Reading search results

1. Make sure that Internet Explorer has focus and the search results from last activity are loaded.
2. Press **NVDA+t**. Note that the title of the window has now changed to the search query with "internet explorer" at the end.
3. Press **control+home** to ensure the focus is at the top of the page.
4. Press **d** to move through landmarks until the focus is on the "main" landmark. NVDA reads "Main landmark, search results, heading level 2".
5. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read from the current point. NVDA should (remember, the internet is constantly updated so this may change) read out the date and day of the week of next New Year's Eve.
6. That may have been all the information needed, but Google still presents a list of pages which match the search. Let's look through those to see what else is available. Press **h** to move to each search result.
7. At each heading, read from that point to read the preview paragraph for each result on the first page.

8. Close Internet Explorer.

11.4 Form Navigation Keys

Navigation keys, such as "h" for heading, don't work in focus mode. There are, however, several single letter navigation keys we can use when in Browse mode to help us find form fields on a web page. You will find that the form fields available on web pages are the same as those found in dialog boxes such as we have looked at previously:

- **e**: edit field. Jumps to the next edit box where you can type information (when you are in focus mode).
- **b**: button. When activated, performs a function, often submitting a form.
- **x**: check box. Can be "Checked" or "Unchecked"; when checked, usually indicates agreement with a statement, for instance, "I am over 18 years of age".
- **c**: combo box. A drop-down list with a pre-defined set of options; e.g., days of the week or colours.
- **r**: radio button. Several options of which only one can be selected; e.g., sex "Male" or "Female".
- **f**: form field. Jumps to the next instance of any of the above fields.

These work the same as the other single letter navigation keys. Press **e** once to find the next edit field, for instance, or add **shift** to find the previous one.

Activate buttons with **enter**. Select or unselect checkboxes or radio buttons with **spacebar**. Some combo boxes can be navigated directly with the **arrow keys** and some require **alt+down arrow** to be pressed first.

When some pages load, the focus may start in an edit box and NVDA will automatically go into focus mode. This does not happen with every page; it is more common on pages designed around a form such as Google search.

If you are on a page in browse mode and press **tab** to move the focus into an edit field, then NVDA will automatically go into focus mode.

Use the **arrow keys** or single letter navigation, such as pressing **e** to move to the next edit box, does not automatically put NVDA in focus mode. You need to press **enter** to turn it on. Similarly, if you are in focus mode and want to turn it off, you can by pressing **escape**.

It is important to listen for the click to know whether you are in focus mode or not.

Activity: Form navigation keys

1. Open Internet Explorer and load the Google search page www.google.com (Remember to listen for the click indicating that NVDA is in focus mode when the page loads).
2. Press **escape** and listen for the beep indicating NVDA going back into browse mode.

3. Press **b** to move to the next button, the "Google Search" button, which is activated automatically when **enter** is pressed to submit a search.
4. Press **shift+e**. NVDA reads "Search landmark, search combo box editable". This is the main search edit field the page starts in. Note that this does not put NVDA in focus mode.
5. Press **f** to move to the next form field (it should be the search button again).
6. Press **shift+f** to move back to the search edit.
7. Press **enter** to go into focus mode.
8. Type (and submit) the query:

20 + 100

9. Note NVDA going into browse mode as the form is submitted. Read the results to find out what the answer is, then close Internet Explorer.

11.5 Check Boxes and Radio Buttons

Focus mode is designed to send the focus directly to the web page when needed. Some controls, such as check boxes, can be manipulated by simply pressing **spacebar**, which can be done from browse mode. In some cases, it may be necessary go back to browse mode, to read the previous text to identify what is expected in an edit box.

It is a good idea to read through a form first to see what information you will need to supply before starting. One strategy is to find the first form field, then go back to the previous heading or landmark and read from there to the button which submits the form.

The next activity will use the NV Access website again. There is a page to download NVDA from the website. When you do, the site encourages you to donate, which goes towards ongoing development of the screen reader. We shall not donate in the activity, but the page is a good example to practise our form navigation skills on.

Activity: check boxes and radio buttons

1. Open Internet Explorer and load the NV Access download page:
<http://www.nvaccess.org/download/>
2. Press **f** to move to the first form field.
3. Press **shift+h** to move back to the previous heading which likely introduces the form.
4. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read from the current point onward. Let's read until we get to the "download" button, which is the button to "submit" this form. While reading, listen for which controls are just before the start of the form, to quickly jump back.
5. Near the first form control was a heading level 3. Press **shift+3** to jump back to this heading.
6. Press **tab** to move to the radio button for a \$30 One-Off donation.
7. Press **down arrow** and **up arrow** to move through the radio buttons and stop at the monthly donation of \$20.
8. Press **tab** to move to the "download" button.

9. Press **alt+f4** to close Internet Explorer.

11.6 Tables

Web pages can contain information in tables; e.g., a calendar or a product list. In browse mode, the single key navigation to jump to the next table is **t** (or **shift+t** to jump to the previous table). When you jump to a table, NVDA will read the caption if there is one, as well as the number of rows and columns. For some tables, you may find it useful to jump to the table, then move up a line or two to read the text introducing the table.

When you are in a table, NVDA allows you to use **control+alt+arrows** to move between cells:

- **control+alt+left arrow** to move one column to the left on the same row.
- **control+alt+right arrow** to move one column to the right on the same row.
- **control+alt+up arrow** to move up one row in the same column.
- **control+alt+down arrow** to move down one row in the same column.

As you move through a table, NVDA will read the heading of the row or column you have moved to (if available). It will also read the current row or column number, as well as the contents of the current cell.

You can control what information is read about tables (such as heading information, row and column numbers). Open the NVDA menu, choose "Preferences", then "Document formatting". On this dialog, find the "Report tables", "Report Table row / column headers" and "Report Table cell coordinates" check boxes. Use the **spacebar** to check or uncheck these as desired.

For this next activity, we'll look at the NVDA Commands quick reference. This is found in the NVDA Help menu (where we accessed the user guide previously to look at headings). It contains a list of all the different key commands for various NVDA functions.

Activity: Tables on web pages

1. Press **NVDA+n** to open the NVDA menu.
2. Choose "Help" and then "Commands Quick Reference". The page will open in Internet Explorer.
3. Press **t** to move to the first table. NVDA reports how many rows and columns are in the table.
4. Press the **up arrow** to move back out of the table to read the previous heading introducing it as "Basic NVDA Commands".
5. Press **down arrow** to move back into the table.
6. Press **control+alt+down arrow** to move down until you are in "Row 4, NVDA Menu". This row will tell us the key to open the NVDA menu.
7. Press **control+alt+right arrow** to move to the second column to read the desktop key for this command. NVDA advises the column title, column number and the text in this cell. Continue moving to the cells to the right to

read the laptop command, touch command and finally a description of the command.

8. Move to the next table and find the keystroke to report the battery status.
9. Close Internet Explorer.

11.7 Browse Mode Containers

Many elements are stand-alone, such as links, landmarks or graphics. That is, they can appear alone or in any order on a web page, or not at all. Some elements, such as lists and tables, act as "containers". A list (press **l** to move to the next list) only exists to hold list items (press **i** to move to the next list item). A table (press **t** to move to the next table) only exists to hold cells (press **control+alt+arrows** to move between cells). In these two cases, it is the list items and table cells which contain the information or content itself.

When in a container object such as a list or table, pressing **,** (**comma**) moves the focus past the end of the container, to the first item after the list or table. This is particularly useful when you wish to skip the list or table and move directly to the next item, but don't necessarily know what type of element it will be.

Pressing **shift+,** moves the focus back to the first item in the current container. This is handy as you can quickly jump to the start of the list or table you are currently reading. Press **shift+t** to jump to the start of the table prior to the one that currently has focus. Similarly, press **shift+l** to jump to the previous list.

The **,** (**comma**) and **shift+,** (**shift+comma**) single letter navigation keys can only be used when the focus is currently within a container such as a table or list.

Activity: Browse mode containers

1. Open the "Commands Quick Reference" from the NVDA help menu.
2. Press **control+home** to move to the top of the page, then press **t** to move the focus to the first table, a list of basic NVDA commands.
3. Press **control+alt+down arrow** to read down the items in the first column until you get to "Pass next key through".
4. Press **control+alt+right arrow** to read this row. Find out the keystroke to pass the next key through as well as the description of what this command does.
5. Press **shift+,**. The focus returns to the first cell in the table. NVDA reads "Row 1, Column 1, Name".
6. Press **,** (**comma**). NVDA reads "Out of table, Reporting System Information, heading level 3".
7. Press **,** (**comma**). NVDA states "Not in a container". unlike other single letter navigation keys, these commands only work when in a table (such as a list or table).
8. Close Internet Explorer.

11.8 Overriding NVDA on web pages

It is possible to manually switch between focus and browse modes with **NVDA+spacebar**. This works similarly to pressing **enter** and **escape**, but it will work anywhere on a web page, not just on form fields. The other difference is that NVDA will not switch back to browse mode when focus moves away from a form field, or if **escape** is pressed.

NVDA+spacebar can be used to force NVDA to stay in focus mode while filling in a long form with explanatory text in the middle.

Single letter navigation can also be disabled on web pages. This can be useful on sites which provide their own navigation keys such as GMail and Twitter. Press **NVDA+shift+spacebar** to toggle single letter navigation keys.

Let's have another look at the NVDA donate screen, again without donating.

Activity: Overriding NVDA on web pages

1. Open Internet Explorer and load the NV Access download page:
<http://www.nvaccess.org/download/>
2. Press **f** to move to the first form field.
3. Press **tab** to move through the form, until you get to the "Download" button.
Note that focus mode turns on and off as you move from the button to the radio button to the link, to the edit box and finally to the button.
4. Press **control+home** to move back to the top of the document.
5. Press **f** to move to the first form field.
6. Press **NVDA+spacebar** to manually go into focus mode.
7. Now press **tab** to move through the form again, to the "Download" button.
Note that NVDA stays in focus mode while moving through the form.
8. Press **NVDA+spacebar** to manually go back into browse mode and listen for the lower beep which accompanies this.
9. Press **alt+f4** to close Internet Explorer. (Note that we did not have to go back into browse mode prior to closing Internet Explorer).

11.9 Forms on the Web Review

The experience of navigating the web and filling in forms varies between websites and as sites are updated. It will likely be beneficial to revisit these sections several times and practise using the skills presented on several sites.

This section covered:

- Searching for specific text on a web page
- Navigating around tables
- Filling in forms:
 - What focus mode is
 - What form controls are
 - How to interact with a form control on a web page
 - How to submit a form.
 - The different ways of alternating between focus and browse modes.

The review activity uses Google to find out information. Numerous very useful resources will likely be returned in the search results; however, the activity will use the results from Wikipedia. Wikipedia is like an online encyclopaedia and has lots of information. One key feature of it, is that it is editable by users. Be wary and double check information you read there if it is particularly important. For the purposes of the activity, Wikipedia is (at the time of publication), accessible and well laid out, and an interesting real-world website to explore.

Activity: Forms on the web review

1. Open Internet Explorer and load the Google search page: www.google.com
2. Let's find out about the deepest ocean. Perform the three searches below. For each, read through the results then, locate the edit box to perform the next search:

oceans

please tell me where the deepest ocean on earth is located
deepest ocean.

3. Leave the last search results open and open WordPad to a blank document. Note down how the different wording affected the three sets of search results. Remember that the goal was to find out information on the deepest ocean.
4. Leaving the WordPad document, return to the search results for "deepest ocean". Read through the results. Find the "Wikipedia" article result for the Mariana Trench and load it.
5. Read through the Wikipedia page and find several ways of navigating to main points. Consider different heading levels, landmarks, graphics and lists.
6. Use the elements list dialog to move to the "Life" heading and then read the first paragraph. Read it all if interested. Use NVDA's find command to look for the word "monument" on the page. Read that paragraph.
7. Find the edit box on the page. Ensure you are in focus mode and do a search for your favourite hobby, radio or TV show or book. Depending on the search it may take you directly to a page, or to a list of possible pages. If to a list, find a suitable page and load it.
8. Copy three paragraphs of information from different sections of the Wikipedia page and paste those into the open WordPad document. Read the WordPad document to ensure it makes sense.
9. Save the document as "research" in the folder you created for your work under the documents folder. Then close both WordPad and Internet Explorer.

12 NVDA Review Cursor Basics

The aim of this section is to explore the NVDA review cursor. The review cursor allows reading backwards or forwards through text without moving the caret. The review cursor can also report spelling and formatting information.

Goals for this section:

- Use the review cursor
- Obtain formatting and spelling information
- Copy from review cursor
- Tether the braille display

12.1 Introducing The Review Cursor

So far, when moving around a document in WordPad or a web page in Internet Explorer, the caret or focus has moved. The "Review cursor", can read ahead or back through text without moving the focus. This can be useful for checking information elsewhere in a document to refer to at the caret.

Press **numpad 7** (laptop: **NVDA+up arrow**) to move the review cursor up one line. Press **numpad 8** (laptop: **NVDA+shift+.**) to read the current line the review cursor is on. Press **numpad 9** (laptop: **NVDA+down arrow**) to move the review cursor down one line.

When using the **up** and **down arrows**, the caret moves to the current point in the previous or next line. When moving the review cursor by line, the review cursor always moves to the start of the line.

If using a braille display, by default the display will be "tethered" automatically. As the review cursor moves, the Braille display will follow and show the text at the review cursor.

Let's use the review cursor now:

Activity: Introducing the review cursor

1. Open WordPad and type the following lines:

Meadow all quiet
Eagle swoops down catching lunch
Daisies bask in sun

2. Press **numpad 7** (laptop: **NVDA+up arrow**) once, the review cursor moves back to the second line.
3. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. NVDA reads the third line, as that is where the caret is still.
4. Press **numpad 8** (laptop **NVDA+shift+.**) to read the line the review cursor is on. It is still on the second line.
5. Press **numpad 7** (laptop: **NVDA+up arrow**), the review cursor moves to the first line.
6. Press **numpad 9** (laptop: **NVDA+down arrow**) to move the review cursor back to the third line.
7. Press **up arrow** twice to move the caret to the first line.

8. Press **numpad 8** (laptop: **NVDA+shift+.**) to read the line the review cursor is on. The review cursor should still be on the first line.
9. Save the file as "meadow" and leave it open to return to next activity.

12.2 Moving by word

As well as moving by line, the review cursor can move by word. Press **numpad 4** (laptop: **NVDA+control+left arrow**) to move the review cursor to the start of the previous word. Press **numpad 5** (laptop: **NVDA+control+.**) to read the current word at the review cursor. Press **numpad 6** (laptop: **NVDA+control+right arrow**) to move to the start of the next word.

Press **NVDA+f** to read the formatting of the current text. **NVDA+f** gives information about the text at the review cursor, rather than the caret. By default, the review cursor follows the focus. When the focus, or caret, is moved, the review cursor returns to it.

If using a Braille display, it is possible to tether the display to the focus or the review cursor. Tethering braille to focus means the contents of the Braille display won't change when only the review cursor is moved. Tethering Braille automatically is the default. Press **NVDA+control+t** to toggle the Braille display tether.

Let's move the review cursor by word now:

Activity: Moving the review cursor by word.

1. Make sure the "meadow" document from last activity is still open in WordPad. Press **control+home** to jump to the start of the document.
2. Press **down arrow** to go to the start of the second line.
3. Press **shift+end** to select the line and **control+b** to make the text bold.
4. Press **control+end** to move the caret to the end of the document.
5. Press **numpad 7** (laptop: **NVDA+up arrow**) to move the review cursor to the start of the previous line. If using a Braille display, toggle tethering it to the review cursor with **NVDA+control+t**. Note the difference in the text displayed when tethered to focus.
6. Press **numpad 6** (laptop: **NVDA+control+right arrow**) to move the review cursor right one word.
7. Press **NVDA+f** to read the formatting and note that the current text at the review cursor is bold.
8. Press **NVDA+up arrow** (laptop: **NVDA+I**) to confirm the focus is still on the third line. This line is not bold.
9. Save the meadow document and close WordPad.

12.3 Moving by Character and Spelling

As well as moving by word and line, the review cursor can also move by character.

Press **numpad 1** (laptop: **NVDA+left arrow**) to read the previous character with the review cursor. Press **numpad 2** (laptop: **NVDA+.**) to read the current character. Press

numpad 3 (laptop: **NVDA+right arrow**) to read the next character with the review cursor.

In desktop layout, the 3x3 grid on the number pad may help to remember the review cursor commands. Top to bottom the commands are for moving or reading by line, word and character with the review cursor. Left to right the commands are for previous, current and next.

In laptop layout, the review cursor keystrokes are like those for moving the caret. The review cursor navigation commands have the addition of the NVDA modifier key.

Moving the review cursor by character is one way to read the spelling of text. Another way to spell the current word is to press **numpad 5** (laptop: **NVDA+control+.**) twice quickly. Press **numpad 8** (laptop: **NVDA+shift+.**) twice to spell the current line. Press either command three times to spell using character descriptions.

Let's write a letter and use the review cursor to spell some text now:

Activity: Moving by character and spelling

1. Open WordPad and type the following lines:

Dear Mr Kent,
Offence was not meant!
We spelt your name badly,
Now we all feel sadly!
Forgive us please now Mr Brown.

2. Press **control+home** to move to the first line.
3. Move the review cursor to the last line of the text. If using a braille display, note whether it is tethered to the focus or the review cursor. Press **NVDA+control+t** to change the tether. Ensure it is set to either "Review" or "Automatic"
4. Press **numpad 6** (laptop: **NVDA+control+right arrow**) to move the focus to the word "now".
5. Press **numpad 3** (laptop: **NVDA+right arrow**) until the review cursor is at the "w" in the word "Brown".
6. Press **numpad 5** (laptop: **NVDA+control+.**) twice quickly to spell the current word at the review cursor.
7. Press **numpad 5** (laptop: **NVDA+control+.**) three times quickly to spell the current word at the review cursor with character descriptions.
8. Press **NVDA+up arrow** (laptop: **NVDA+I**) twice quickly to spell the line where the caret is. Check the spelling of the name.
9. Save the document as "names" and leave it open for next activity.

12.4 Following the Caret

Reporting formatting with **NVDA+f** reports the formatting at the review cursor rather than the caret. Spelling the current word with **numpad 5** (laptop: **NVDA+control+.**)

also stays with the review cursor. Often spelling or formatting are checked in regular reading without considering what they follow.

The review cursor follows the focus by default. This means that when the focus is moved (for instance, by pressing the **down arrow**), the review cursor returns to the focus. The review cursor can be set to move independently of the caret so that when the caret moves, the review cursor does not automatically follow. Press NVDA+6 to toggle whether the review cursor follows the focus. NVDA will announce "Caret moves review cursor off" or "Caret moves review cursor on".

With Braille tethered automatically, the Braille display will follow both the focus and the review cursor. The text at whichever was moved most recently will be displayed on the Braille display.

Let's explore changing whether the caret moves the review cursor now:

Activity: Following the caret

1. Make sure the "names" document is open in WordPad from the previous activity.
2. Press **control+end** to move the caret (and review cursor) to the end of the document. Press **control+left arrow** to move back to the start of the word "Brown".
3. Press **control+delete** to remove the word "Brown".
4. Press **NVDA+6** to turn "Caret moves review cursor" off.
5. Ensure that Braille is tethered automatically then move the review cursor up to the first line, and across to the name "Kent".
6. Press **numpad 5** (laptop: **NVDA+control+.**) twice quickly to spell the name.
7. The caret is still at the end of the document, where the old name was deleted. Type the new name, as spelt in the previous step.
8. Press **numpad 8** (laptop: **NVDA+shift+.**) to read the current review cursor line. Note that the review cursor is still on the first line, even though typing in the previous step moved the caret.
9. Press **NVDA+6** to set "Caret moves review cursor" to "on" again. Finally, save the document and close WordPad.

12.5 Other Navigation Commands

There are several other keystrokes to control the location of the review cursor.

The review cursor may seem redundant in WordPad as there are simpler commands available. The real power of the review cursor will be more evident in the next Section on Object Navigation. The review cursor and object navigation together can access text which regular navigation cannot.

The last commands to move the review cursor are:

- **shift+numpad 7** (laptop: **NVDA+control+home**) to move to the top line.
- **shift+numpad 9** (laptop: **NVDA+control+end**) to move to the bottom line.

- **shift+numpad 1** (laptop: **NVDA+home**) to move to the start of the current line.
- **shift+numpad 3** (laptop: **NVDA+end**) to move to the end of the current line.
- **numpad plus** (laptop: **NVDA+shift+a**) to read from the current point onwards.

Let's practise some more review cursor navigation:

Activity: Other review cursor navigation

1. Open WordPad with a new, blank document.
2. Type the following lines of text:

This line has five words,
This line has four.
Gliders and birds,
all love to soar.

3. Press **shift+numpad 7** (laptop: **NVDA+control+home**) to move to the top line.
4. Press **shift+numpad 3** (laptop: **NVDA+end**) to move to the end of the current line.
5. Press **numpad 4** (laptop: **NVDA+control+left arrow**) to move back one word.
6. Press **numpad 5** (laptop: **NVDA+control+.**) twice to spell the current word.
7. Press **shift+numpad 1** (laptop: **NVDA+home**) to move to the start of the current line.
8. Press **numpad plus** (laptop: **NVDA+shift+a**) to read from the current point onwards.
9. Save the document as "soar" and leave it open to return to next activity.

12.6 Copying Text

Copying text from the current review cursor position is possible. Press **NVDA+f9** to mark the start of the text to copy. Next, use the review cursor navigation keys to move to the end of the text to copy. Press **NVDA+f10** to finish and select the text. Press **NVDA+f10** a second time quickly to copy the text to the clipboard. Note that the selection includes the character to the right of the review cursor.

Let's copy some text now:

Activity: Copying text with the review cursor

1. Make sure the "soar" document is open from the previous activity.
2. Use the review cursor to move to the start of the third line ("Gliders and birds").
3. Press **NVDA+f9** to start marking text.

4. Press **shift+numpad 3** (laptop: **NVDA+end**) to move to the end of the current line.
5. Press **numpad 1** (laptop: **NVDA+left arrow**) to unselect the last character.
6. Press **NVDA+f10** twice quickly to finish selecting text and copy the text to the clipboard.
7. Move the caret to the first line and select the text "five words".
8. Press **control+v** to paste the copied text. The first line now reads "This line has gliders and birds".
9. Close the document without saving.

12.7 Review Cursor Review

This section covered using the Review cursor. There are quite a lot of keystrokes in this section. Not all the keystrokes were used in the activities, so feel free to come back and review this section again. Some of the key concepts included:

- Using the review cursor to navigate around a document
- Obtaining formatting and spelling information
- Copying from the review cursor
- Tethering the braille display

Activity: Review cursor review

1. Open WordPad and type the following lines of text:

Some of my favourite animals:

Two cats, Meg and Mog,

four birds and a dog.

Plus a sheep is a total of:

2. Move the review cursor to the top line.
 3. Read through the text, using the review cursor to work out how many animals there are.
 4. Check the location of the caret, note that it has not moved since step 1, then write the number of animals there are.
 5. Move the review cursor to just after the word "Some" on the first line and mark to start copying text.
 6. Move the review cursor to select the text "of my favourite animals". Include the space before "of" but avoid selecting the colon.
 7. Press the keystroke to select and then copy the text to the clipboard. Move to the end of the document and paste the copied text.
 8. Read through the document. The last line should now read "Plus a sheep is a total of: 8 of my favourite animals".
 9. Close WordPad without saving.
-

13 Object Navigation

The aim of this section is to explore NVDA's object navigation ability. The review cursor allows moving around text in the current control, without moving the caret. NVDA's object navigation allows moving to other controls, which may or may not be text based, without moving the focus.

Goals for this section:

- Being able to read dialog boxes
- Being able to move around objects and containers
- Copying information
- Moving back to the object with focus, or moving the focus to the current review object
- Activating items
- Accessing the ribbon with object navigation

13.1 Reading Dialog Boxes

Some windows have controls or information which is visible, but not ordinarily accessible, with the keyboard. Examples include, a control which is only designed to be clicked on with the mouse, or short pieces of informative text, which can be read visually, but not manipulated.

Sometimes text is presented in a dialog box which only has an OK button which can receive focus. Dialog boxes like this are often designed to simply have the information read and accepted. Press **NVDA+b** to read the entire contents of the current window.

One example of this kind of informative window is the dialog box which lists the exact version of Windows installed. As Microsoft regularly release updates to Windows, this screen advises the current build number, which can be useful for troubleshooting problems. This screen also advises who this copy of Windows is licensed to.

While this information is text, the focus can only be moved to the two controls which can be activated. The dialog has an "OK" button to close it, and a link to the "Microsoft Software License Terms".

To get to the Windows Version screen, open the Start menu and type *winver*. When the dialog box opens, NVDA reads out all the information. Confusingly, the version number may not indicate the Windows version. However, the following paragraph will start "The Windows *nnn* operating system...." which will read the version of Windows. If you only want to know whether you have Windows 7, 8 or 10, then this may be enough. To read the specific build number, you may need to listen to it several times to ensure you have it correct. Let's explore the "About Windows" dialog box now:

Activity: Reading dialog boxes

1. Press **Windows** to open the Start menu.
2. Type the following:

winver

3. Press **enter**. The "About Windows" screen is displayed. NVDA reads out the information from the dialog box.
4. Press **NVDA+tab** to read the control with focus. NVDA reads "OK Button focused".
5. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. NVDA reads "OK".
6. Press **numpad 7** (laptop: **NVDA+up arrow**) to move the review cursor to the previous line. NVDA reads "Top", as we can't move the review cursor out of the current control (the OK button).
7. Press **tab**. The focus moves to the "Microsoft Software License Terms" link. If you press **tab** again, the focus returns to the "OK" button.
8. Press **NVDA+b**. NVDA reads through the whole dialog box again. You can press this several times to hear the information repeated until you are familiar with the details you need.
9. Press **escape** to close the dialog box.

13.2 Moving Between Objects

Reading a whole dialog box is an option which works for very simple dialog boxes. For more control, NVDA provides commands to move between objects or controls. Objects are the different elements that make up a window. Items such as blocks of text, buttons, the ribbon, and the ribbon items, are all objects. How they are laid out and ordered varies from program to program and this often requires some exploration.

With NVDA in Desktop layout, to move between objects, press:

- **NVDA+numpad 4** to move to the previous object.
- **NVDA+numpad 5** to report the current object.
- **NVDA+numpad 6** to move to the next object.

A good way to remember this, is that it is the same as the Review Cursor commands to read the previous, current or next word with the NVDA key as well.

With NVDA in laptop layout, to move between objects, press:

- **NVDA+shift+left arrow** to move to the previous object.
- **NVDA+shift+o** to report the current object
- **NVDA+shift+right arrow** to move to the next object.

This is also like moving the review cursor by word, except using **shift** instead of **control**, for previous and next object.

Finally, if you are using a braille display, the display needs to be tethered either automatically, or to the review cursor to read with the braille display when using object navigation. To toggle whether braille is tethered to the system focus, or to the review cursor, press **NVDA+control+t**. The default setting is to have Braille tethered automatically.

Let's practise now on the "About Windows" dialog we looked at last activity:

Activity: Moving between objects

1. Open the "winver" dialog box, used last activity. That is, press **windows**, type *winver*, then press **enter**.
2. The "About Windows" dialog box appears and NVDA reads out the information. The focus is on the "OK" button which is the last thing in the window.
3. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**), to move to the previous object. NVDA reads the name or email address of the person or organisation this copy is licensed to.
4. Press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to report the current object. NVDA reads the same text, followed by "Text, read only".
5. Press **NVDA+tab**. NVDA reads "OK button focused". As with moving the review cursor through text, we have not moved the system focus.
6. Keep pressing **NVDA+numpad 4** (or **NVDA+shift+left arrow**) to move back through the previous objects, until NVDA reports "No Previous". This is the first item we can get to.
7. Press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to report the current object. NVDA reads "Graphic read only". This is an image of the Windows logo and the current version of Windows.
8. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) and read through the dialog box again.
9. Press **enter** to close the "About Windows" dialog. Because the focus had not moved from the "OK" button, even if we had not returned to the button, pressing **enter** still works.

13.3 Copying Information in Object Navigation

As the review cursor moves with object navigation, it is possible to get to text the review cursor couldn't originally get to. This can then be used to copy text the caret can't otherwise access. Our Windows version number is a good example where you might want to do this; for instance, if you were writing to someone for help with a problem.

Remember: with the review cursor, use **NVDA+f9** to start marking and **NVDA+f10** twice to finish marking and copy to the clipboard.

Let's practise by copying our Windows version and build number into WordPad from the same "About Windows" dialog we've been reading:

Activity: Copying information in object navigation

1. Open the "Winver" dialog box. That is, press **windows**, type *winver* then press **enter**.
2. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move to the previous object. Repeat until NVDA reports the version and build numbers.
3. Press **shift+numpad 1** (laptop: **NVDA+home**) to move to the start of the line.

4. Press **NVDA+f9** to start marking text.
5. Press **shift+numpad 3** (laptop: **NVDA+end**) to move to the end of the line.
6. Press **NVDA+f10** twice quickly to finish marking text and copy to the clipboard.
7. Open WordPad.
8. Paste the text we copied with **control+v**. Read through the text, and confirm the line contains the Windows version and build number.
9. Close WordPad and the About Windows dialog.

13.4 Moving to the Containing Object

The "About Windows" dialog is a relatively simple window. Everything we needed was in the one "container". More complex windows may have objects contained in other objects, almost like the folder structure we looked at in the File Explorer section earlier. WordPad is a great example of this. WordPad's window contains:

- The ribbon
- The status bar
- The ruler
- The rich text window

The status bar is a section across the bottom of the window which gives information such as the current zoom level. The ruler is a visual representation to measure the distance across the page. NVDA reads the ruler as a line of numbers. Both the status bar and the ruler can be disabled. The rich text window is where text in a document is written; it is the main area and visually takes up most of the space.

There are also a couple of "blank" containers we can ignore.

To move to the containing object, press **NVDA+numpad 8** (laptop: **NVDA+shift+up arrow**). This moves "up" one level in the hierarchy of objects.

To move to the first object inside the current container, press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**).

In desktop layout, use the four edge keys on the number pad to move. Use **NVDA+numpad 4** and **NVDA+numpad 6** to move back or forward through the objects in the current container. Press **NVDA+numpad 8** to move up one level and **NVDA+numpad 2** to move "down" one level.

Laptop layout uses the four arrow keys to move. Use **NVDA+shift+left arrow** and **NVDA+shift+right arrow** to move back or forward through objects in the current container. Move "up" one level with **NVDA+shift+up arrow** and move "down" one level with **NVDA+shift+down arrow**.

Let's explore the WordPad window now. When we open the window, the focus starts in the rich text edit window ready to type. Coincidentally, this edit window, as with the OK button in the About Windows dialog last activity, just happens to be the last control in the Window:

Activity: Moving to the containing object

1. Open WordPad. The focus starts in the rich text edit window ready to type. Press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to report the current object and confirm this.
2. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move back through all the objects, until NVDA reports "No previous".
3. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move forward through the objects, until NVDA reports "No next".
4. Move back through the objects, locate the "Status bar" object and press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**). NVDA will report "100%" or similar. This is a text label indicating the current zoom level.
5. Repeat steps 3 and 4 to explore the objects in the status bar.
6. Press **NVDA+numpad 8** (laptop: **NVDA+shift+up arrow**) to move back up out of the status bar.
7. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move backward through the objects in this container. Stop at the "Ribbon property page", which is the container for the ribbon.
8. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to move into the Ribbon container. Then use the next and previous object keys to move through the objects in the ribbon.
9. Close WordPad.

13.5 Moving Back to the Object with Focus

While moving into and out of containers, it is possible to move completely out of the program with focus. This can be useful, but it also makes getting lost a possibility. Sometimes, it can be helpful to jump directly back to the object with focus.

By default, the review cursor and object navigation will return to the system focus if the focus or text caret are moved. This happens if you type something or press a conventional navigation key, such as **tab** or **home**. Press **NVDA+7** to toggle whether the review cursor is placed in the same object as the current system focus whenever the focus changes.

Object navigation also provides us with a keystroke to jump directly back to the item with focus. You can do this by pressing **NVDA+numpad minus** (laptop: **NVDA+backspace**). Let's try this now:

Activity: Moving back to the object with focus

1. Open File Explorer.
2. Move to the tree view and navigate to the "Documents" folder.
3. Open WordPad.
4. Press **NVDA+numpad 8** to move up to the containing object.
5. Explore the next and previous objects. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move to the next object. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move to the

previous object. Note that the review cursor has moved out of WordPad with just one keystroke.

6. Use the same keys to locate the "File Explorer" Window. NVDA will read "Documents", as that is the folder with focus.
7. Press **NVDA+numpad minus** (laptop: **NVDA+backspace**).
8. Press **NVDA+numpad 5** (or **NVDA+shift+o**) to confirm that the current object is the Rich Text Edit in WordPad.
9. Close all the open Windows.

13.6 Activating Items with Object Navigation

When you have navigated to an object, you can activate it by pressing **NVDA+numpad enter** (laptop: **NVDA+enter**). This is similar in many cases to moving the focus to it and pressing **enter**.

The next activity explores the WordPad window again now. This time, activating the zoom controls on the status bar. These controls only affect how a document appears on screen, they will not affect a document which is printed. Let's activate controls on WordPad's status bar now:

Activity: Activating items

1. Open WordPad. The focus starts in the rich Text edit window ready to type.
2. Type the following text:

Here is a test piece of text. Did you guess?

3. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move back through the objects until NVDA announces "Status bar".
4. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**). NVDA will announce "100%", or similar. This is a text label indicating the current zoom level.
5. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to Move to the "Plus button".
6. Press **NVDA+numpad enter** (laptop: **NVDA+enter**) three times. Each time this is pressed, the zoom level is increased. This makes the document appear larger on screen.
7. Explore the items again. Note that the slider is now higher than 50% and the number in the text label has increased as well.
8. Close WordPad without saving changes. The zoom level will return to default next time it is opened.

13.7 Move System Focus to Current Review Position

As you move the review cursor with object navigation, you may find you want to move the focus to the current position of the review cursor.

In some cases, the activate current navigator object command may not be able to manipulate a control. Moving the focus to the current review cursor position may enable the object to be manipulated with regular keys, such as **enter** or **spacebar**.

To move the focus to the current review cursor position, press **NVDA+shift+numpad minus** (laptop: **NVDA+shift+backspace**). For both desktop and laptop layouts, the keystroke is the same as to move the review cursor back to the system focus, with the addition of the **shift** key.

The next activity uses the same task as the previous activity on moving back to the system focus, this time moving the focus to another program. While **alt+tab** is generally an easier way to switch programs, this will demonstrate using the command:

Activity: Move system focus to current review cursor position

1. Open File Explorer.
2. Move to the tree view and navigate to the "Documents" folder.
3. Open WordPad.
4. Press **NVDA+numpad 8** to move up to the containing object.
5. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to locate the "File Explorer" window. NVDA will read "Documents", as that is the folder with focus.
6. Press **NVDA+numpad enter** (laptop: **NVDA+enter**). NVDA reports "activate", although nothing happens. This is an example where the activate command does not work to manipulate an object. Let's try moving focus to it.
7. Press **NVDA+shift+numpad minus** (laptop: **NVDA+shift+backspace**). NVDA reads "Move focus, Documents Window, tree view".
8. Press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to confirm that the focus has moved to the File Explorer Window.
9. Close all the open Windows.

13.8 Exploring the Ribbon with Object Navigation

Object navigation can be a good way to access the ribbon. It provides a structured and reliable way to move between Ribbon sections and access features.

As covered previously, the ribbon is divided into sections. On WordPad's Home ribbon, the sections are Clipboard, Font, Paragraph, Insert and Editing. The conventional method involves pressing **alt** to access the ribbon, **control+tab** to change sections, then **tab** through the individual items. After **tab** moves to the last item in a section, if **tab** is pressed again, the focus moves immediately to the first item in the next section. There is no notification that the focus has moved to the next section of items.

Using object navigation to access the ribbon keeps each section separate. When the last item is reached, if you try to move to the next item, NVDA will announce "no next".

Using Object Navigation, inside the Ribbon container, are the following:

- The file button

- The ribbon tabs tab control
- Minimise the ribbon button
- Help button
- Property page for the currently active tab.

Several of those are buttons we can activate, such as, to minimise the ribbon or show help. Others are containers we can move into with further controls inside.

If we go into the Ribbon tab, we find only "Home tab" or "View Tab". These are the two ribbon tabs available in WordPad. The "file" menu is listed separately as a button in the structure above.

Inside the property page for the current ribbon tab, is a list of "toolbars". These correspond to the various sections of the current tab.

Finally, inside each of those toolbars, we find the individual controls that can be activated to do things like change the zoom level, line spacing or turn bold on and off.

Let's explore the Home ribbon with object navigation now:

Activity: Exploring the Ribbon

1. Open WordPad. The focus starts in the rich Text edit window ready to type.
2. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move back through all the objects in this section until you get to the "Ribbon property page".
3. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to enter this container and move to the first object inside it.
4. Use the next and previous object navigation keys to explore the objects inside the Ribbon property page.
5. Locate the "Home property page", and press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to move to the first object inside this container.
6. Again, use the next and previous object navigation keys to explore the toolbars available.
7. Locate the "Font" toolbar, and press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to enter it.
8. Use your next and previous object navigation keys to explore the individual objects inside the paragraph toolbar.
9. Leave WordPad open as we shall come back to it next activity.

13.9 Changing Ribbon Tabs

While changing Ribbon tabs does not involve any new keystrokes, it is worth covering to reinforce object navigation concepts.

So far, we have used **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move through each object one at a time until we get to the first one. You might have noticed that when we go into a container, Object navigation automatically goes to the first item in that container. One "short cut", to quickly move to the first object in the current

container, is to jump up out of the current container, and then come back in. We'll use that in this activity too:

Activity: Changing ribbon tabs

1. Make sure WordPad is open from the previous Activity. If it isn't, open it now.
2. Press **NVDA+numpad 8** (laptop: **NVDA+shift+up arrow**) to move up to the containing object.
3. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to move back into the container. Object navigation automatically moves to the first item in the section, the "Ribbon property page".
4. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to enter the "Ribbon property page" container and move to the first object inside it.
5. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move through the objects until you get to the "Ribbon tabs tab control". This is the list of tabs available.
6. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to enter the ribbon tabs.
7. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) and move to the "View tab".
8. Press **NVDA+numpad enter** (laptop: **NVDA+enter**) to activate this item. NVDA announces "Switch" and the View tab is now the active tab.
9. Use the object navigation keys we have covered, to move up out of the current object, navigate to the "View Property Page", move down into that container and explore it.

13.10 Review Modes

So far, we have used object review mode to navigate around objects: the ribbon, individual ribbon items, edit boxes, text fields, etc. We can use the commands from [12.2 Moving Between Objects](#) to move between objects. We can then use the text review cursor to read text in each object.

NVDA has a command to change review modes. Pressing **NVDA+numpad 7** (laptop: **NVDA+page up**) changes to the next available review mode. Pressing **NVDA+numpad 1** (laptop: **NVDA+page down**) changes to the previous available review mode.

The different review modes are Document review, object review and screen review.

When reading web pages, NVDA automatically switches to document review mode. It is the mode you are used to reading web pages in. You could use **numpad 9** (laptop: **NVDA+down arrow**) to read through a web page line by line, for instance. Document mode is only available in certain places.

Object review is the review mode we have used throughout this chapter. On a web page, changing to this mode presents each element (heading, link, form field, etc.) as its own object. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move from one object to the next.

Screen review allows you to review the screen as it appears visually within the current application. This can sometimes enable you to more easily get to and read information not otherwise accessible. This mode does not work in many modern applications.

Let's practise on the Windows Version dialog we have looked at previously:

Activity: Review modes

1. Open the Winver dialog. (Press the **windows** key, type *winver* and press **enter**).
2. Press **shift+numpad 7** (laptop: **NVDA+control+home**) to move to the top line of text in this object, the "OK" on the OK button.
3. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move back through the objects.
4. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move forward until NVDA reads the "OK" button again.
5. Press **NVDA+numpad 7** (laptop: **NVDA+page up**) to move to the next review mode. NVDA will announce "Screen review, OK".
6. Press **shift+numpad 7** (laptop: **NVDA+control+home**) to move to the top line. NVDA now reads "Top, Microsoft Windows".
7. Press **numpad plus** (laptop: **NVDA+shift+a**) to read all. NVDA reads the whole dialog box out as one object.
8. Press **escape** to close the dialog box.

13.11 Object Navigation Review

This section, we covered using the object navigation feature of NVDA, to navigate to, and read information from, various places. Sometimes, information is impossible to get to with the keyboard without using object navigation, and other times it can be preferable to use object navigation. Some of the key concepts covered were:

- Reading dialog boxes
- Moving between objects
- Copying information
- Moving to the containing object
- Moving back to the object with focus
- Activating items
- Moving the system focus to current review object
- Exploring the ribbon with object navigation

Activity: Object Navigation review

1. Open WordPad.
2. Use Object Navigation to activate the increase font size button in the "font" section of the Home Ribbon.
3. Move to the previous object. This is the text of the current font size. Using the next and previous object commands, check how the size changes each time it is adjusted.

4. Open the winver dialog and copy the text from each section of this dialog into WordPad.
 5. Open Internet Explorer and use Object Navigation to move the focus to the Address bar (hint: remember, it will read both the word "Address" and the web address of the home page).
 6. Use the regular command to copy the address of the page.
 7. Use object navigation to move the focus back to WordPad.
 8. Paste the address you copied and read the document you have created.
 9. Close all open Windows.
-

14 Configuring NVDA

The aim of this section is to be able to take advantage of some of NVDA's advanced configuration options.

Goals for this section:

- Ability to change the speech rate, pitch, volume and voice quickly
- Know that there are shortcut keys to NVDA's settings dialogs
- Understand how to save and revert NVDA's configuration
- Be able to reset NVDA's configuration to factory defaults
- Know how to use NVDA's configuration profiles, including triggered and manual profiles

14.1 Changing the Speech Rate

One of the options in the Voice Settings is a slider to adjust the speech rate; i.e. how fast the voice speaks. The speech rate can also be adjusted without needing to go into the settings dialog. Press **NVDA+control+up arrow** (laptop: **NVDA+shift+control+up arrow**) to increase the speech rate and make NVDA speak faster. Press **NVDA+control+down arrow** (laptop: **NVDA+shift+control+down arrow**) to decrease the speech rate and make NVDA speak slower.

Let's practise now:

Activity: Changing the speech rate

1. Press **NVDA+n** to open the NVDA menu.
2. Press **h** to open the "Help" sub-menu.
3. Press **enter** to open the User guide.
4. Press **tab** to move to the "Introduction" link and **enter** to activate it.
5. Press **NVDA+control+up arrow** (laptop: **NVDA+shift+control+up arrow**) to increase the speech rate by 5%. NVDA reports "Rate: ", followed by a percentage value.
6. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read from the current point. Listen to a couple of sentences and see if you can understand the speech at this speed.

7. Repeat steps 5 and 6 until you have difficulty understanding the speed of the speech.
8. Press **NVDA+control+down arrow** (laptop: **NVDA+shift+control+down arrow**) twice. This decreases the speech rate by 10% (or repeat until you are comfortable with the speech rate).
9. Leave the User guide open to use again next activity.

14.2 Adjusting Pitch, Volume and Voice

In the previous activity, **NVDA+control+up arrow** (laptop: **NVDA+shift+control+up arrow**) was used to increase the speech rate. **NVDA+control+down arrow** (laptop: **NVDA+shift+control+down arrow**) was used to decrease the speech rate.

There are several speech settings which can be adjusted like this:

- Rate: how fast the voice is
- Pitch: how high or low the tone of the voice is
- Inflection: amount of rise and fall in pitch
- Volume: how loud the voice is
- Voice: change between voices offered by the current synthesizer
- Variant: different versions of the current voice.

Not all options are available with all synthesizers. Some synthesizers use "Voice", to set language and "Variant" to choose specific voice (e.g., male or female), and others list both under "Voice" only.

Note that for "Volume", the maximum value, 100%, will set the volume of NVDA to the same volume as other sounds from the PC; e.g., music or sound effects. Setting the volume lower than 100% will make NVDA quieter than other sounds. To set the NVDA volume higher than other sounds, set audio ducking as covered earlier. Alternatively, the system volume mixer in Windows can be used to adjust the values of the other items to be lower than NVDA.

To switch between adjusting rate, pitch, volume and voice, press **NVDA+control+right arrow** (laptop: **NVDA+shift+control+right arrow**) to move forward through that list. Press **NVDA+control+left arrow** (laptop: **NVDA+shift+control+left arrow**) to move backward through the list.

NVDA+control+up arrow (laptop: **NVDA+shift+control+up arrow**) increases the voice setting currently selected. **NVDA+control+down arrow** (laptop: **NVDA+shift+control+down arrow**) decreases whichever voice setting is currently selected. Let's practise adjusting voice settings now:

Activity: Adjusting pitch, volume and voice

1. Make sure the NVDA User Guide is still open in Internet Explorer from the previous activity.
2. Read several sentences.

3. Press **NVDA+control+right arrow** (laptop: **NVDA+shift+control+right arrow**) to move from adjusting Rate to adjusting pitch.
4. Press **NVDA+control+down arrow** (laptop: **NVDA+shift+control+down arrow**) to lower the value.
5. Read a couple of sentences to get a feel for the difference.
6. Press **NVDA+control+up arrow** (laptop: **NVDA+shift+control+up arrow**) to raise the pitch back to the original setting.
7. Press **NVDA+control+right arrow** (laptop: **NVDA+shift+control+right arrow**) until NVDA announces "Voice".
8. Repeat steps 4 to 6 to try different voices.
9. If available, try adjusting "Variant" and "inflection" using the above steps, then close Internet Explorer.

14.3 Saving NVDA's Configuration

When changing the speech synthesizer was originally covered, **NVDA+control+r** was also introduced to revert to the saved configuration. By default, changes to settings are saved when exiting NVDA. To turn this setting off, uncheck the "Save configuration on exit" check box in NVDA's general settings. This may be useful if are setting up NVDA for someone else and don't want them to inadvertently change anything.

If this is turned off, any changes to NVDA's configuration settings need to be saved by pressing **NVDA+control+c**.

The next activity changes the speech rate again and then reverts to the saved configuration to undo the change. If you have made any changes to NVDA's settings that you are not happy with, please adjust these again. Alternatively reset to the saved configuration with **NVDA+control+r** before starting this activity. Let's save the configuration now:

Activity: Saving NVDA's configuration.

1. Open the NVDA User guide.
2. Move to the "Introduction" section.
3. Read several lines.
4. Press **NVDA+control+right arrow** (laptop: **NVDA+shift+control+right arrow**) until NVDA reads out the current "Rate".
5. Press **NVDA+control+c** to save the current configuration.
6. Press **NVDA+control+up arrow** (laptop: **NVDA+shift+control+up arrow**) twice to increase the speech rate.
7. Read a couple of lines and note that the speech rate is quicker than normal.
8. Press **NVDA+control+r** to revert the configuration.
9. Read a couple of lines again and notice that the speech rate is back to normal after reverting to the configuration we saved earlier. Leave Internet Explorer open to use again next activity.

14.4 Resetting NVDA's Configuration to Factory Defaults

It is possible to reset NVDA's configuration to the factory defaults. This is useful if you set something that really causes problems. For instance, after setting the synthesizer to "no speech", and then saving the configuration restarting NVDA. Press **NVDA+control+r** once to revert to the saved configuration. Press **NVDA+control+r** three times quickly to reset NVDA to the factory default configuration.

Let's practise:

Activity: Reset NVDA's configuration back to factory defaults

1. Ensure the NVDA user guide is still open from last activity.
2. Press **NVDA+control+up arrow** (laptop: **NVDA+shift+control+up arrow**) twice to increase the speech rate.
3. Read a couple of lines and note that the speech rate is quicker than normal.
4. Press **NVDA+control+r** three times quickly to restore the factory configuration. NVDA announces "Configuration restored to factory defaults". Depending on whether you have changed the voice, speech rate or other settings, the factory default voice may sound the same, or very different.
5. Read a couple of lines and note any differences in the factory default voice.
6. Press **NVDA+control+r** once. NVDA announces "Configuration applied" and returns to the speech settings we had at the start of the activity.
7. Read a couple of lines now and note that the voice settings are back where we had set them previously.
8. Close Internet Explorer.

14.5 Shortcuts to Settings Dialogs

Have you wondered why the command to save the NVDA configuration is **NVDA+control+c** with a "c", rather than an "s"? The reason is that **NVDA+control+s** is already taken. Instead of using the NVDA menu and settings dialog to get to the Synthesizer options, there is a shortcut. Press **NVDA+control+s** to open the Synthesizer dialog directly.

It is possible to access various NVDA settings categories and dialogs directly with keystrokes:

- General settings: **NVDA+control+g**
- Synthesizer: **NVDA+control+s**
- Voice settings: **NVDA+control+v**
- Keyboard settings: **NVDA+control+k**
- Mouse settings: **NVDA+control+m**
- Object presentation settings: **NVDA+control+o**
- Browse mode settings: **NVDA+control+b**
- Document formatting settings: **NVDA+control+d**
- Configuration profiles: **NVDA+control+p**

A few of these have been covered previously from the NVDA menu. Many of these settings are categories in NVDA's settings dialog. Pressing the shortcuts for these opens

NVDA's settings dialog directly to that category. Configuration profiles will be covered in the next topic.

While the synthesizer may not need to be changed very often, it is handy to know these shortcuts exist and they can be useful. For instance, to toggle document formatting settings when editing text.

Let's have a look:

Activity: Shortcuts to settings dialogs

1. Open WordPad and open the "Mars Life" file you saved earlier.
2. Read through the file.
3. Press **NVDA+control+d** to open the settings dialog to the document formatting category.
4. Check the "Announce formatting changes after the cursor" and "Report font attributes" and press **enter** to accept these changes.
5. Read through the file again and note that "Bold" is announced where the text is formatted bold.
6. Press **NVDA+control+d** and uncheck "Announce formatting changes after the cursor" and press **enter** to activate the "OK" button.
7. Press **NVDA+control+v** to open the Voice Settings category in the settings dialog. Explore the settings in here and note which ones cannot be toggled directly with the synth settings ring.
8. Press **tab** to read through the options. See if there are any you would like to change or experiment with, now that you know a bit more about how NVDA works.
9. Close the dialog and WordPad.

14.6 Configuration Profiles

As well as being able to save and load the regular configuration, it is possible to setup multiple configurations for different purposes. Configurations can be set to be activated automatically when a certain program is running. Configurations can also be activated manually, by opening the Configuration Profiles dialog, selecting a profile and pressing the "Manual activate" button. For instance, in WordPad, you might want NVDA to read all punctuation and document formatting and use a slower reading speed, to easily review and edit text. At the same time, in Internet Explorer you might prefer NVDA read quickly and not report as much punctuation and formatting.

Let's make a configuration that reads a bit slower for editing in WordPad now.

Activity: Creating a configuration profile

1. Open WordPad.
2. Press **NVDA+control+p** to open the profiles dialog.
3. Press **alt+n** for "New" to create a new profile. The new profile dialog appears with the focus in the "Profile name" edit box.

4. Type *Proofreading* as we shall use this profile in WordPad for typing and proofreading our documents.
5. Press **tab**. The focus moves to the "Use this profile for" group of radio buttons, with the selected button being "manual activation".
6. Press the **right arrow** to select "Current Application (WordPad)" to set this profile to automatically load when WordPad is active.
7. Press ENTER to accept the changes.
8. Lower the speech rate by 20% (lower it less if you have difficulty understanding it that slow).
9. Raise the pitch by 20%. Leave WordPad open as we'll come back to it next activity.

14.7 Triggered Profiles

Triggered profiles are very powerful and useful.

A configuration profile contains only those settings which are changed while the profile is being edited. That is, when adjusting any of NVDA's settings, whichever profile is active is the one which will be changed.

Most settings can be changed in configuration profiles, except for those in the General Settings category, which apply to the entirety of NVDA.

In the previous activity, a profile was setup to automatically activate while in WordPad. This profile lowers the speech rate and raises the pitch by 20%. When the focus moves out of WordPad and into, say, Internet Explorer, the speech rate and pitch will return to their normal levels. If there is an automatic profile setup for Internet Explorer, then that may change these values again.

In the "Proofreading" profile setup for WordPad, no synthesizer was specifically setup, so the default synthesizer is used for that profile. When the focus is in Internet Explorer, if there is no manually activated or triggered profile active, the default profile will be edited. If the synthesizer is changed from eSpeak NG to Microsoft Speech API 5 Synthesizer, when the focus returns to WordPad, the Microsoft Speech API 5 Synthesizer will still be used.

To check the active profile, press **NVDA+control+p** to open the profiles dialog. The currently active profile will have focus.

Activity: Triggered profiles

1. Make sure that WordPad is open from the previous activity.
2. Type She sells sea shells by the sea shore.
3. Press **NVDA+control+p** to open the profiles dialog. Listen to NVDA report the name of the dialog, and the currently triggered profile which is being edited.
4. Open Internet Explorer. Notice that the voice rate speeds up as we are no longer in the "Proofreading" profile from WordPad.

5. Press **NVDA+control+p** to open the profiles page and check that we are using the normal configuration, then press **escape** to close the dialog.
6. Press **NVDA+control+s** to open the synthesizer dialog.
7. If the synthesizer is set to eSpeak NG, change it to "Microsoft Speech API version 5". Otherwise, change it to eSpeak NG.
8. Press **alt+tab** and return to the WordPad Window. Note that the synthesizer does not change.

14.8 Manual Configuration Profiles

You can also create manual profiles. Manual profiles are only active after you open the profiles dialog, choose the profile and press the "Manual activate" button.

When you manually activate a profile, triggered profiles will still be activated, however, any settings in the manual profile will override them.

In the example setup in the last couple of activities, the "Proofreading" profile is set to load automatically in WordPad. This profile lowers the speech rate and raises the pitch by 20%. Let's work out what happens if we manually activate a profile which raises the pitch by 5% without adjusting the speech rate.

While in Internet Explorer, no triggered profile is active. The speech rate will be normal, and pitch will be 5% higher from the manual profile. When WordPad is active, the speech rate increases as the triggered profile sets this and it is not overridden by the manual profile. The pitch, however, would only be raised by 5% from the normal. The triggered profile setting of 20% higher is ignored, as the manually activated profile specifies 5% higher than normal.

When the default "manual activation" radio button is left checked, a manually activated profile will be created. A dialog box will appear advising how to use this profile and providing the option to activate the profile now. The dialog reads:

"Manual Activation: To edit this profile, you will need to manually activate it. Once you have finished editing, you will need to manually deactivate it to resume normal usage. Do you wish to manually activate it now?"

Any settings you save while the manually activated profile is running will be saved to the manual profile, even if you are in a program with a triggered profile.

Activity: Manually activating profiles

1. Press **alt+tab** to move the focus to Internet Explorer (Open Internet Explorer if not still open from last activity).
2. Press **NVDA+control+p** to open the profiles dialog.
3. Press **alt+n** to create a new profile.
4. Type *Manual Test* and press **tab**.
5. The focus is already on "Manual activation", so we can press **enter** to save this profile.
6. Listen to the prompt and press **enter** to activate the profile.

7. Raise the pitch by 5%.
8. Press **alt+tab** to move to WordPad. Open it if not left open from last activity.
9. Note how the triggered profile has slowed the speech rate, but the manual profile's pitch has been retained.

14.9 Say All Profile

When we activate a profile manually, it is important to then manually deactivate it when we are finished.

Any profile, even one usually triggered by a program, can also be manually activated. For instance, the "Proofreading" profile might be useful for checking a web page for errors prior to publishing.

Configuration profiles can be triggered when a program is active. A profile can also be triggered using the "Say all" command, when **NVDA+down arrow** (laptop: **NVDA+a**) is pressed.

The profile triggered by "Say all" needs to be manually activated to edit it. This is because it is otherwise only active while performing say all; as soon as say all is interrupted, the "say all" profile is deactivated. Let's try creating a "say all" configuration profile now.

Activity: Say all profile

1. Open the profiles dialog, create a new profile and call it "Reading".
2. Tab to the "Use this profile for" radio button group.
3. Press the **right arrow** and move to the "Say all" radio button, then press **enter** to select.
4. Read the prompt and press **enter** to manually activate the profile to edit it.
5. Increase the speech pitch by 10%.
6. Open the profiles dialog. Note that the default button is "Manual deactivate".
7. Press **enter** to deactivate the profile and close the dialog box.
8. From NVDA's "Help" menu, open the "User guide".
9. Read through several lines with the **down arrow** key, then read with **NVDA+down arrow** (laptop: **NVDA+a**). Note the difference in pitch when the "Say all" profile is triggered.

14.10 Configuring NVDA Review

This section, we covered some of NVDA's advanced configuration.

Some of the key concepts included:

- Changing the speech rate, pitch, volume and voice quickly
- Using shortcut keys to open NVDA's settings dialogs
- Saving and reverting NVDA's configuration
- Resetting NVDA's configuration to factory defaults

- How to use NVDA's configuration profiles, including triggered and manual profiles

Activity: Configuring NVDA review

1. Open File Explorer.
 2. Create a triggered profile for File Explorer with the following attributes:
 - Set the punctuation level to "all" (to hear all characters in file names)
 - Set the pitch to be 10% higher than normal
 - Set the speech rate to be 10% slower than normal
 3. Create a manually activated profile called "very fast". Activate it and set the following attributes:
 - Set the speech rate 10% faster than normal
 - Choose a different "voice" to standard
 4. Open your journal and at the bottom, under an appropriate heading, explain when manually activated profile features are used and when triggered profile features are used.
 5. Move line by line to the top of the file, then use the Say all command to read the text and listen to the voice used for regular reading and "say all".
 6. Go back to File Explorer and navigate through the first few items in the current folder to hear the voice used in File Explorer.
 7. Open the configuration profiles page and Manually deactivate the "Very fast" profile.
 8. Repeat steps 5 and 6 and note any differences in the voices.
 9. Re-read the topics in this section if needed to ensure you understand how profiles work. Write a new paragraph in your journal with any new understanding, before saving and closing everything.
-

15 Advanced topics

If you have read the topics carefully and practised the activities, this module will have brought you to the point of being a very competent NVDA PC user. However, this module is not an exhaustive guide to every single feature and setting within NVDA. This Advanced section outlines some additional topics which haven't been covered and where to find information about them in the User Guide if you are interested.

If you are applying for NVDA certification, you will need to be proficient in the use of the additional topics in this section. More information on NVDA certification is in the last topic in this section.

Note that there are no activities in this section.

15.1 Creating a Portable Copy

Like most other programs, NVDA can be installed on your PC. A portable copy of NVDA can also be created. This places all needed files in one location, such as on a USB memory stick. A portable copy does not add anything to the system registry. This

enables it to be run from anywhere, including a library or Internet cafe, even without administrator access to the PC.

Full information on how to set this up, and the limitations of this mode, are available in the [NVDA User Guide, section 3 "Getting and setting up NVDA"](#).

15.2 Braille Settings

The Review Cursor and Object Navigation topics of this module included tethering Braille to the focus or review cursor. It is also possible to change these options from the Braille category in the settings dialog. There are other options in this category which have not been covered.

As well as setting the correct braille display and input and output tables, preferences such as the cursor blink rate, message timeout and whether words are split across lines can also be adjusted.

To get to the braille settings screen:

1. Press **NVDA+n** to open the NVDA menu.
2. Choose "Preferences" (Press **P**).
3. Choose "Settings" (Press **enter**).
4. Choose "Braille settings" (Press **B**).

More information on the options in the braille category of the Settings dialog is available in the [NVDA User Guide, section 11.1.5 "braille Settings"](#). Also see section 12 "Supported braille Displays", for information about configuring and using specific braille displays.

15.3 Keyboard Settings

The section on editing documents covered adjusting some feedback settings, such as speak typed characters, speak typed words, and speak command keys. There are more options in the Keyboard category of the settings dialog box that weren't covered.

As well as being able to change between laptop and desktop layouts on this screen, options including when speech is interrupted and how say all reads can also be adjusted.

To open the Keyboard category of the settings dialog directly, press **NVDA+control+k** or open the Settings dialog and choose the "Keyboard" category.

More information on the options on the Keyboard settings screen is available from the [NVDA User Guide, section 11.1.6 "Keyboard Settings"](#). Also see section 4.2 "About NVDA keyboard commands" for more information on the NVDA key and keyboard layouts.

15.4 Advanced Browse Mode

The section on Browsing the web covered using Browse mode quite extensively. However, it is a very complex topic, so there are more options that may be of interest to the advanced web user.

The [NVDA User Guide, section 6](#) contains a number of points which were not covered in the material, including:

- refreshing a document
- opening a long description of an element
- additional single letter navigation keys (block quote, separator, frame, etc.).

There are also commands to move to the start or end of the current container and to navigate to embedded objects.

The [NVDA User Guide, section 11.1.13 "Browse Mode Settings"](#), contains additional Browse mode settings. These include the maximum number of characters per line and lines per page, screen layout, how information is reported and when focus mode is automatically enabled.

The "Browse" category of the settings dialog is accessed by pressing **NVDA+control+b**.

15.5 Speech Dictionaries

NVDA endeavours to pronounce most words and phrases as accurately as possible. There will, however, likely still be some names and other uncommonly pronounced words which may not be spoken correctly. Note that this is also dependent on the speech synthesizer and language being used.

NVDA has a speech dictionary which you can use to specify how NVDA should pronounce specific words. See the [NVDA User Guide, section 11.2.1 "Speech dictionaries"](#), for more information on how to configure pronunciation and the different speech dictionaries.

Also see the [NVDA User Guide, section 11.2.2: "Punctuation/symbol Pronunciation"](#) for information about changing the way punctuation and other symbols are pronounced.

15.6 Input Gestures

You can customise the keystrokes, braille display commands and gestures which NVDA uses to perform most functions. This may be useful if a keystroke conflicts with a keystroke you use in another program. Customising keystrokes is also useful if an NVDA keystroke you wish to use requires pressing several keys at once that you have difficulty reaching at the same time.

The [NVDA User Guide, section 11.2.3: "Input Gestures"](#), explains how to change keystrokes/input gestures.

Note that if you do have difficulty with pressing several keys at once, you may find the general Windows accessibility setting "Sticky keys" useful. Press **Windows+u** to open the Ease of Access centre and explore the options in the "Make the keyboard easier to use" section.

15.7 Advanced Configuration Profiles

The "Configuring NVDA" section covered a lot of information about setting up and using configuration profiles. There are some extra points that were not covered, including renaming, deleting and temporarily disabling profiles. More information on these topics is available in the [NVDA User Guide, section 11.4](#): "Configuration profiles".

15.8 Add-ons Manager

NVDA has a robust and innovative user base. This community has created numerous add-ons for NVDA which can add additional features or functionality. While the add-ons themselves are not officially supported, the [NVDA User Guide, section 12.3](#): "Add-ons Manager", covers how to install and manage add-ons.

15.9 Reading Mathematical Content

NVDA can read and interactively navigate, supported mathematical content in several programs using MathPlayer 4.

The [NVDA User Guide, section 7](#): "Reading Mathematical content", outlines where and how this can be used.

15.10 Navigating with the Mouse

While most things can be done with the keyboard alone, there are times when it may be useful to physically interact with the mouse or manipulate the mouse controls with the keyboard.

The [NVDA User guide, section 5.7](#) has mouse navigation commands. These can be used to adjust what is read out when you move the mouse physically. There are also commands for using the keyboard to move the mouse or click the mouse buttons.

The mouse configuration category of the settings dialog can be opened by pressing **NVDA+control+m**.

15.11 Tools

NVDA contains several tools which may assist add-on creators, advanced users trying to troubleshoot problems or sighted testers.

The [NVDA User guide, section 12](#) contains information on these tools:

- Log Viewer (10.1) allows you to access errors and information written to NVDA's log.
- Speech Viewer (10.2) opens a floating window displaying the text NVDA reads out.
- Python console (10.4), an advanced development tool. This is generally only used by developers.
- Add-ons manager (10.3) as covered earlier this section.

15.12 Miscellaneous commands

This section contains various commands which are either useful for the advanced user to know, or which may be invaluable in specific situations and which didn't neatly fit elsewhere.

Toggle speech mode: If you wish to turn speech off temporarily, without exiting NVDA, you can toggle speech mode with **NVDA+s**. This command toggles between speech, beeps and off (no speech). It may be useful if you are using a Braille display and wish to only receive output via that, rather than via speech.

Audio ducking: In [4.4 Exploring the Synthesizer Dialog](#) audio ducking was introduced. Audio ducking is the ability to lower the volume of other sounds while NVDA is speaking. While many users will set this and then not need to change it, there is a keystroke to quickly toggle between audio ducking modes: **NVDA+shift+d**.

Reporting progress bar output: Two settings from the Object Presentation settings screen have their own shortcut key toggles. Pressing **NVDA+u** toggles how progress bar output is indicated; for instance, whether progress percentage is spoken, indicated by beeps of varying pitch or not indicated at all.

Report dynamic content changes: Pressing **NVDA+5** toggles the announcement of new content in objects such as terminals and the history control in chat programs.

Application sleep mode: If you have a program which is self-voicing, you can press **NVDA+shift+s** (laptop: **NVDA+shift+z**) to toggle application sleep mode. This mode disables all NVDA commands as well as speech and braille output while the current program is active.

Pass next key through: Pressing **NVDA+f2** tells NVDA to pass the next key press straight through to the active application, even if it is normally treated as an NVDA key command. This is useful if a program you use has a keystroke you want to use which conflicts with an NVDA keystroke.

Reading the status bar: The status bar in many programs displays useful information you may wish to read. You can press **NVDA+end** (laptop: **NVDA+shift+end**) to read the status bar.

15.13 Application Specific Features

NVDA contains commands and features specific to particular programs. Later modules in this series are entirely devoted to Microsoft Word and Excel.

The [NVDA User Guide, section 10](#) covers application specific features including:

- Microsoft Word, a word processor with more advanced features than WordPad (Section 8.1)
- Microsoft Excel, a spreadsheet program (Section 8.2)
- Microsoft PowerPoint, a presentation program (Section 8.3)
- Foobar2000, a music player (Section 8.4)
- Miranda IM, an instant messenger (Section 8.5)
- Poedit, a translation editor (Section 8.6)

- Skype, online video chat, voice calls and text messaging (Section 8.7)
- Kindle for PC, read electronic books specifically from Amazon
- Azardi, read electronic books in ePub format

15.14 NVDA Certification

NVDA Certification is an exciting program which allows participants to demonstrate and confirm their in-depth knowledge of NVDA.

Becoming an NVDA Certified Expert is particularly suited to:

- Trainers
- Technicians
- Accessibility professionals
- Add-on developers
- Dedicated users of NVDA who wish to demonstrate their proficiency.

The online exam to become an NVDA Certified Expert is based around the topics covered in this module.

More information on how to become certified is available from <https://certification.nvaccess.org/>

16 NVDA Setup Guide

This section details how to download and install NVDA and how to set it up either for yourself or another user.

The format is slightly different from other sections of the module. The start of each topic contains a summary of how to setup that element. This may be enough for advanced users setting up for someone else. More information then further explains the options and who might benefit from adjusting them. Instead of activities, each topic has a "Steps for" section which outlines in more detail the specific steps to follow if you wish to make that adjustment.

16.1 Downloading NVDA

NVDA can be downloaded from the NV Access website at: <http://www.nvaccess.org/download/>

The following steps provide a guide to the steps involved in downloading NVDA. They do assume a familiarity with using the web browser, so are not designed for novice users.

Steps for: Downloading NVDA

1. Open the web browser (Press **Windows**, type *Internet* and press **enter**).

2. Load the NV Access download page (press **alt+d**, type the following address and press **enter**):

<http://www.nvaccess.org/download>

3. Either choose a donation amount or select "Skip donation this time". The first option is a radio button for "\$30".
4. Type your E-Mail address in the edit field.
5. Activate the "download" button.
6. If a donation amount was chosen, then you will be taken to the "PayPal" website to donate.
7. Otherwise (or once you have completed the donation) the download will start and prompt you to either save or run the program.
8. Press **alt+n** to move the focus to the notifications area, then press **alt+r** to choose "Run". In some browsers this step may be different, or the file may need to be saved then run manually.

16.2 Installing NVDA

The setup file for NVDA will talk you through installing the program once it starts.

If you download NVDA, the setup file will be named "nvda_2018.2.exe", with the year or version changing to reflect the current release.

As soon as you run the file (or after it finishes downloading if you chose to run it when it downloaded), the setup program will play a musical tune. It will then speak you through the install process. If you had Narrator or another screen reader running when you downloaded NVDA, you can stop it once NVDA starts installing.

The following steps assume you chose to "run" the setup file as soon as it downloaded. If you have downloaded it (or received it on a USB drive, etc.), then you will need to locate the file and launch it manually.

Steps for: Installing NVDA

1. As soon as the file runs, you should hear music indicating the start of NVDA's setup program (if you do not hear the music, ensure your sound card and speakers are on and configured correctly).
2. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the license agreement if desired.
3. Press **alt+a** to check the "I agree" check box.
4. Press **alt+i** to "Install NVDA on this computer". (Alternatively, at this point press **alt+p** to create a portable copy.)
5. The next screen offers options to use NVDA on the Windows logon screen and create a desktop shortcut. These are checked by default, so you can simply press **enter** (use **tab** and **spacebar** if you wish to change any of these options).
6. A Windows User Account Control dialog appears asking "Do you want to allow this app to make changes to your PC?". Press **alt+y** to accept this.

7. A dialog box appears stating that NVDA has been installed and to please press OK to start the installed copy. Press **enter** to start the installed copy.
8. The "Welcome to NVDA" dialog appears. A message is read out and the focus is on the "Use capslock as an NVDA modifier key". Use **tab** and **spacebar** to adjust the options on this page as needed.
9. Press **enter** to close the dialog box. NVDA is now running.

16.3 Choosing Desktop or Laptop Layout

By default, NVDA is set up in Desktop layout, using **insert** as the NVDA modifier key. You can set up laptop layout and the NVDA modifier keys in the Welcome dialog, or at any time from the Keyboard Settings dialog.

In the Welcome dialog, you are given the option to use **capslock** as an NVDA modifier key, as well as, or instead of, **insert**. NVDA also allows you to change either desktop or laptop layout. The default is desktop, which uses the number pad for many commands. Laptop layout does not rely on having a physical number pad (which many laptops do not have) and adjusts the keystrokes for various actions accordingly. One example is that to read from the current point onwards is **NVDA+down arrow** in desktop layout and **NVDA+a** in laptop layout. This module includes the keystrokes for both desktop and laptop layouts throughout. The keyboard layout, as well as the NVDA modifier key, can be changed at any time in the Keyboard Settings dialog. Press **NVDA+control+k** to open the Settings dialog to the Keyboard category.

Steps for: Choosing keyboard layout

1. Press **NVDA+control+k** to open the Settings dialog to the Keyboard category.
2. When the Settings dialog opens, the focus is in the Keyboard category, on the "Keyboard layout" drop-down list. If you wish to change this to "Laptop layout", press the **down arrow**. Otherwise, leave it as it is.
3. The next three options are "Use Capslock as an NVDA modifier key", "Use Numpad insert as an NVDA modifier key", and "Use Extended insert as an NVDA modifier key". Press **tab** and **spacebar** to check or uncheck each of these as appropriate. This choice may depend on which keys are available and easy to reach on the keyboard.
4. Press **enter** to accept the changes.

16.4 Setting Up a Braille Display

If using a braille display, ensure you have it connected, and use NVDA's braille Display settings dialog to set the correct braille display and code tables are selected.

Steps for: Setting up a braille display

1. Connect the braille display to the PC according to the manufacturer's instructions.
2. With NVDA running, press **NVDA+n** to open the NVDA menu.

3. Press **p** to open the Preferences sub-menu and **enter** to open the Settings dialog.
4. Press **b** to navigate to the braille category.
5. Press **tab** once to move to a label with the currently selected display, and a second time to move the focus to the "Change" button.
6. Press **enter** to activate the Change button.
7. Choose the appropriate braille display from the drop-down list, using the **up** and **down** arrow keys and press **enter** to select it.
8. Press **tab** to move to the Output Table and Input table drop-down lists and adjust these as needed to the appropriate braille codes.
9. Press **enter** to save changes and close the dialog.

16.5 Setting Up Synthesizers

When setting up NVDA on Windows 10, the default is to use the "Windows OneCore Voices" which are built into Windows 10. These are high quality, natural-sounding voices. Additional languages can be installed from Windows "Region and Language" settings, by installing the language, including its speech pack.

On earlier versions of Windows, the default is a synthesizer included with NVDA called "eSpeak NG". The eSpeak NG synthesizer is responsive and able to speak clearly at high speeds, however is not as human sounding. Windows also includes the "Microsoft Speech API Version 5" synthesizer, which users on earlier versions of Windows may prefer.

Alternatively, many third-party voices, both paid and free, are available from the [Extra voices for NVDA page](#). If installing a third-party voice, follow the instructions to install the synthesizer. Select it from the list in NVDA's synthesizer dialog, and adjust any options in the Speech category of NVDA's Settings dialog. Note that some extra voices are not a new synthesizer but a new voice for an existing synthesizer, eg SAPI 5.

Steps for: Setting up speech synthesizers

1. If wanting to use a third-party voice:
 - A. Download any additional voices you wish to install from:
<https://github.com/nvaccess/nvda/wiki/ExtraVoices>
 - B. Run the file you downloaded and follow the instructions to install the voice(s).
 - C. If the voice was provided as an NVDA add-on, NVDA will need to restart before it can use the new voice. If the voice installation does not prompt you to restart NVDA, press **control+alt+n** to restart NVDA.
2. Press **NVDA+control+s** to open the Synthesizer dialog.
3. Use the **up** or **down** arrows to change the synthesizer. Note that some new voices (such as new languages for Windows OneCore Voices) are add-ons for an existing synthesizer. In that case, choose the appropriate synthesizer itself here.
4. Press **enter** to accept the selection and change the synthesizer.
5. Press **NVDA+control+v** to open the Speech category of the Settings dialog.

6. Adjust the options on this page, as needed, to select the voice, variant, rate, etc. If setting up for someone else, it is worthwhile having them present during this step, to ensure the voice is setup to their needs. New speech users may want the speech rate set slower.
7. Once comfortable with the options, press **enter** to close the Voice Settings dialog.
8. If a mistake is made, either go back and redo the steps above, or press **NVDA+control+r** to revert to the saved configuration.

16.6 Other Settings

Those still learning the keyboard may prefer extra feedback. "Speak Command Keys" is an option which reports non-alphanumeric keystrokes and keypresses such as **enter**, **NVDA+f12** or **control+s**. Speak Command Keys can be enabled by pressing **NVDA+4** or from the Keyboard category in the Settings dialog.

Users with a laptop which has a touchpad under the keyboard, may find it beneficial to disable the touch pad. This is often done via the **fn** key with another key. Refer to your Laptop manual for information on disabling the touch pad. Note that this will not affect external USB or Bluetooth mice connected to the laptop.

Users relying solely on NVDA, may also find it beneficial to turn the screen brightness down. On a desktop monitor, turning the monitor off is the most effective solution. On a laptop, turning the brightness down is usually done via the **fn** key with another key (again refer to your laptop manual). This can increase battery life. Another option is to set Windows to use an external monitor only, when one is not plugged in. To set Windows to use an external monitor, press **Windows+p** to cycle through the options. On some versions of Windows, this option will not work without an external monitor.

Steps for: Turning Speak Command keys on

1. Press **NVDA+control+k** to open NVDA's Keyboard Settings dialog.
2. Press **alt+k** to toggle Speak Command Keys if desired.
3. If wishing to adjust screen brightness or disable a laptop touch pad, please refer to your laptop manual.

This is the end of the Basic Training for NVDA module.

Microsoft Word with NVDA



NV Access

Empowering lives through non-visual
access to technology

Microsoft Word with NVDA

Release Date: 15 February 2019

Changes from earlier versions include:

- Added bonus activities
 - Changed Kindle version from Mobi to KFX
 - Updated and reworded Header and Footer, Finding Text and Word Count topics.
 - Minor rewording for clarity
 - Fixed several minor errors
-

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1 Introduction

This "Microsoft Word for NVDA" module builds on the skills covered in the "Basic Training for NVDA" module. It covers more advanced document editing and formatting using Microsoft Word.

1.1 What is Microsoft Word?

Microsoft Word, commonly (and henceforth) called simply "Word", is a "Word Processing" program. It is sold individually or as part of the Microsoft Office suite of programs.

In the "Basic Training for NVDA" module, we covered using WordPad which comes built in to Windows. Word extends on the functionality of WordPad and has many more features to aid in creating documents. Some of these include: automatic lists, headings, spell checking and tables. More advanced features include the ability to track changes to documents and collaborate on a single document with others.

1.2 Goals

This module consists of the following sections:

- Getting started
- Essentials
- Proofreading
- Styles, templates and themes
- Tables
- Page layout
- References
- Document review
- Sharing documents

Goals are presented at the beginning of each section with related review activities at the end of each section.

1.3 Pre-requisites

It is expected that you are comfortable typing and locating keys on the computer keyboard.

It is assumed that NVDA is already installed. Refer to the Basic Training for NVDA module for instructions on installing and setting up NVDA.

If using a Braille display, it is assumed this has also been setup.

This module assumes you have completed the "Basic Training for NVDA" module and have a good understanding of the concepts presented in that module.

In particular, reviewing the following sections from the "Basic Training for NVDA" module is strongly recommended:

- 6 Editing Documents and
- 7 Document Formatting.

In addition to the minimum requirements for NVDA, this module assumes the following minimum requirements:

- Windows version 7 through to Windows 10
- Microsoft Office 2010 or later.

Although NVDA works on earlier versions of Office, for clarity, Office 2010 has been chosen as a base for this material.

2 Getting Started with Word

The aim of this section is to get started using Microsoft Word and recap the document editing skills covered in the "Basic Training for NVDA" Module.

Goals for this section:

- Starting Word
- Text editing recap
- Text formatting recap
- Saving a document
- Opening a document
- Creating a new document
- Printing a document
- Protected view
- Reading mode

2.1 Starting Word

As with any other program, shortcuts for starting Word can be created on the desktop, Start menu or taskbar. To use the Start menu, press the **windows** key and type "Word". Ensure the focus is on Word and not WordPad or another program, and then press **enter**. The "Word" item in the start menu will usually also include its version number, such as "Word 2010" or "Word 2016". Typing just "Word" is usually enough to find it.

The "Basic Training for NVDA" module covered using the Start menu in Section 3 "Getting Started with Windows", and also Topic 9.3 "The Windows taskbar".

If using Office 2010, once Word starts, the focus will be in a new blank document.

If using later versions of Office such as Office 2013, Office 2016, or Office 365, by default, the focus is initially on a Start screen when Word starts. From the Start screen, a blank document or a recently opened document can be selected.

Throughout this module, unless specified, it is assumed that Word's default options have not been changed. Information on changing options is covered in the section on "Word options" near the end of this module.

Activity: Starting Word

1. Press the **windows** key to open the Start menu.
2. Type:

Word

3. Ensure "Word" is the active search result, rather than WordPad or another program. If not, press the **down arrow** to select Word.
4. Press **enter** to start Word. The focus will be on the Start screen. Leave it open as we shall come back and explore this start screen next activity.

2.2 Exploring the Start Screen

This topic covers using the Start Screen which was first introduced in Word 2013. Users of Office 2010 may skip to the next topic: [2.3 Writing Text](#).

The Start screen in Word provides the ability to start with a blank document, a document from a template or a recently opened document. The focus is on blank document. Press **enter** to choose this option.

Pressing the **arrow keys** moves through the template options. The built in templates offer different styles for things like letters, reports, newsletters or blog posts. Templates are covered in topic 5.1 Templates.

Pressing **tab** moves the focus to the recent documents list. From there, the **arrow** keys can be used to choose a recently closed document. Alternatively, the "Open other documents" link brings up an open dialog to open another document.

Finally, there is information about the current Microsoft account, or a link encouraging you to sign in. Unless using an Office 365 subscription, Word does not need to be signed in to a Microsoft account.

Let's explore the dialog now:

Activity: Exploring the start screen

1. Ensure that Word is the active program with the start screen open from the previous activity.
2. Press **NVDA+tab** to read the item with focus. NVDA reports details about the "Blank document" item.
3. Press **right arrow**. The focus moves to the first template.
4. Keep pressing the **right arrow** to explore the templates available.
5. Press **tab** until the focus is on either the latest of the recent documents in a file list, or if no recent documents, the "Open other documents" link.
6. Press the **down arrow**. The focus will move through the recent documents, with the last item being the "open other documents" link. If you reached "Open other documents" on the previous step, then the focus will not move and NVDA will not report anything when you press **down arrow**.
7. Press **tab** until the focus moves back to the blank document button.
8. Press **enter** to open Word with a blank document.
9. Leave Word open, ready to start writing a document in the next activity.

2.3 Writing Text

Once a choice is made from the start screen, a document will open, or a blank document will be created. The main Word window is somewhat similar to WordPad:

- The title bar shows the name of the current document and the name of the program across the top of the window
- Underneath are the ribbon titles and currently selected ribbon
- The main part of the screen contains the document on a representation of a white sheet of paper

When a blank document is created, the default name is "Document1". Press **NVDA+t** to read the title bar. Press this twice quickly to spell the information. Press **NVDA+t** three times quickly to copy the title bar text to the clipboard.

If a second instance of Word is opened to a blank document, Word calls the second instance "Document2". A second instance of Word can be opened with a blank document from within Word by pressing **control+n**.

Generally, text is not printed to the very edge of the paper. By default, there is space around the text, visually indicating the margin at the four edges of a printed page. There is also a visual representation of space around what would be the paper itself.

This default layout is called "Print layout" as it is designed to appear quite similarly on screen to how a document would look on paper if you print it.

Aside from those visual differences, writing basic text in Word is the same as in WordPad or anywhere else. The standard navigation keys also work to move around text, including:

- **left arrow** and **right arrow** to move back or forward by one letter
- **control+left arrow** or **control+right arrow** to move one word at a time
- **up arrow** and **down arrow** to move up or down by one line

- **control+up arrow** and **control+down arrow** to move up or down by one paragraph
- **home** and **end** to move to the start and end of the current line
- **control+home** to move to the start and **control+end** to move to the end of the text
- **page up** and **page down** to move up and down by one screen

Text can be selected by holding down **shift** while pressing any of the above keystrokes. For instance, pressing **shift+end** selects from the current point to the end of the line. Pressing **shift+control+right arrow** selects from the current point to the start of the next word. The entire document can be selected at once by pressing **control+a**. To read the selected text, press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**)

The standard NVDA reading commands also work as they do in other programs:

- **NVDA+up arrow** (laptop: **NVDA+l**) to read the current line
- **NVDA+down arrow** (laptop: **NVDA+a**) to read from the current point onward
- **numpad 5** (laptop: **NVDA+control+.**) to read the current word.

To have NVDA spell the current word, press **numpad 5** (laptop: **NVDA+control+.**) twice quickly. Pressing a command twice quickly to spell the returned information works for many NVDA commands.

Let's practise writing and navigating through text now:

Activity: Writing text

1. Ensure Word is open to a blank document from the previous activity.
2. Press **NVDA+t** to read the title bar. NVDA reads "Document1 - Word".
3. Press **NVDA+tab** to read the current item. NVDA reads "Microsoft Word, document edit, focused, multi-line", indicating that the focus is in a multi-line edit field.
4. Type the following paragraph. Remember, if you press the wrong letter, it can be removed before doing anything else by pressing **backspace**:

our dog and our cat,
are best pals you see;
they sleep on the mat,
both snoring.

5. Press **control+home** to move to the top of the document.
6. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read through the document.
7. Press the **up arrow** until you get back to the top of the document.
8. Press **control+right arrow** to move through the text word by word.
9. Leave the document open.

Bonus Activity:

Use the navigation keys to jump to the start of the second line. Select to the end of the third line. Have NVDA report the selected text. Move to the word "cat". Press the command to have NVDA spell the word.

2.4 Editing Text

One thing you may have noticed in completing the previous activity is that Word attempts to detect the start of a new sentence. Word automatically capitalises the start of the next word typed after typing a full stop (period), exclamation point, question mark or pressing **enter**.

If text is too long to fit on one line, it will automatically "wrap" to the following line at the end of the last word which will fit within the margins.

When typing, text is inserted at the "caret", which is also called the "text cursor", or "cursor". Visually, the caret is a thin, flashing vertical line which appears between characters. The caret moves while typing, staying to the right of the last character typed so that new text is added after existing text. When moving through text using the navigation keys, the caret moves to show the current position. This enables text to be inserted in the middle of an existing line. In this case, text already to the right of the caret is pushed to the right to make room, moving to the next line if needed. When selecting text, the caret disappears, and the selected text is highlighted.

Pressing **delete** will remove the character to the right of the cursor, the character NVDA reports while moving with the **left arrow** and **right arrow**. Pressing **control+delete** will remove the word, or partial word, to the right of the cursor. When deleting whole words, the space directly to the right of the word is also deleted.

As with other programs, press **alt+f4** to close Word. If the current document has never been saved, or has been changed since it was last saved, a warning is displayed. The message has the options: "Save", "Don't save" and "cancel". Press **enter** or **s** to save, **n** to not save or **escape** to cancel.

Let's practise now:

Activity: Editing text

1. Ensure the document from the previous task is open in Microsoft Word.
2. Use the reading keys to read the text and locate where Word has capitalised letters (hint: look at the start of each line).
3. Move to the start of the word "pals".
4. Press **control+delete** to remove the word.
5. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line to confirm.
6. Type the word "friends" in its place. Ensure that there is exactly one space between each word.
7. Move to the end of the document, and add the word "gently". Ensure the full stop (period) is in the right place at the end of the line, directly after the word "gently".

8. Press **alt+f4** to close Word. A dialog box appears asking to save the changes to the document.
9. Press "n" to choose "don't save".

Bonus Activity:

Open Word to a blank document. Type: "Now the dog is chasing the cat". Have NVDA spell the word "chasing". Use the navigation keys to move to the correct place and use **backspace** to remove the word dog. Use the navigation keys to move to the correct place and press **control+delete** to remove the word "cat". Edit the sentence to read "Now the cat is chasing the dog". Select "ch" in the word "chasing" and type "te" to change the word to "teasing". Read the sentence and ensure it is correct. Close Word without saving.

2.5 Text Formatting

Being a full-featured, professional, word processing program, Microsoft Word has a lot of options for formatting text. Some of these are the same as were covered in the "Basic Training for NVDA" module with WordPad:

- Bold, **control+b**, makes text thicker and more prominent
- Italic, **control+i**, makes text slant to the right
- Underlined, **control+u**, underlines text for emphasis
- Increase text by one font size, **control+shift+.**
- Decrease text by one font size, **control+shift+,**

There are two ways to use font formatting options such as these; while writing, and to format existing text. These methods work for other types of formatting, but let's use underline as an example:

While typing, when ready to type the text to be underlined, press the shortcut key, **control+u**, to turn underline on. Next, type the text to be underlined. Finally, press the shortcut key again to turn underline off and keep writing.

To underline text which is already in the document, first, select the text to be underlined. Next, press **control+u**. Finally, press an **arrow key** to unselect the text.

Press **NVDA+f** to have information read about the formatting of text at the cursor, or the selected text. Pressing **NVDA+f** twice quickly displays this information in a small window.

Let's practise:

Activity: Text formatting

1. Open Microsoft Word (press **windows+number** if you remember the location on the taskbar, or use Start menu search).
2. Press **enter** to choose to create a blank document.

3. Type the following text:

Running down the main road,
To try to catch the

4. Press **NVDA+f** to read the formatting information. Note which font and size is used. This will be the default as nothing has been changed yet.
5. Press **control+b** to turn on bold.
6. Type a space, followed by the word "train". As long as you haven't moved, this should be at the end of the second line, making it: "To try to catch the train".
7. Press **NVDA+f** to confirm that this is bold.
8. Press **control+home** to move to the start of the text, then **NVDA+down arrow** (laptop: **NVDA+a**) to read the full text.
9. Leave the document open.

Bonus Activity:

Leave the document written in this activity open, and open a new instance of Word. Type "Text can be larger than normal, underlined or both". Select the word "underlined" and underline it. Select the text "larger than normal" and increase the font size by four points. Select the word "both" and make it both underlined and at least three points larger. Leave the document open, but press **alt+tab** to return to the other instance of Word with the text about running for the train.

2.6 Paragraph Formatting

The text formatting options used in the previous activity only affect the specific text selected or typed while they are active. Paragraph formatting options affect the whole paragraph, not just any selected text.

Some conventions specify pressing **enter** twice to create a blank line between paragraphs. Word, however, treats any time **enter** is pressed, as a paragraph break. Pressing **shift+enter** instead, creates a soft line break, which moves to the next line while keeping the "paragraph", and any paragraph formatting, intact.

As with text formatting options, some of the most common paragraph formatting options may already be familiar. Paragraph Formatting is covered in the Document Formatting section of "Basic Training for NVDA". Some frequently used paragraph formatting options include:

- Left align, **control+l**, the default
- Center align, **control+e**, often on fliers
- Right align, **control+r**, company details in business letters
- Justified, **control+j**, even on both sides, used in magazines

Justified makes the text even along both the left and right margins. This is done by automatically adjusting the space between words, making words further apart on one line than another. This can be difficult for some users to read.

Let's practise now on the document created last activity:

Activity: Paragraph formatting

1. Ensure Word is the active program with the text from the previous activity open.
2. Press **control+end** to ensure the focus is at the end of the document and press **NVDA+f** to read the formatting. Note that the text is left aligned, and also bold. The last text in the document is "train" that was made bold last activity.
3. Press **home** to move to the start of the line.
4. Press **control+e** to center the text.
5. Press **NVDA+f** to read the formatting information. Note that bold is not mentioned as the focus is out of the bold text.
6. Press **end** to move to the end of the line again.
7. Press **NVDA+f** to read the formatting information again and note that the focussed text is bold.
8. Press **up arrow** to move to the previous line and press **NVDA+f**. Note that this line is still left aligned. Because **enter** was used to manually move to a new line, Word treats it like a separate paragraph when using paragraph formatting.
9. Close Word without saving the changes.

Bonus Activity:

Press **alt+tab** to return to the document created in the last bonus activity. Move to the end of the text and add a new line reading "Text can be left or right aligned". Right align the text on this line. Move to the first line and check the formatting. It should still be left aligned because Word treats pressing **enter** as a new paragraph. Move to the word "Left" and check the formatting to ensure it is right aligned. Left align the text. Move to the end of the line and confirm that the word "Right" is also left aligned. Close the document without saving.

2.7 Using the Ribbon

The commands introduced so far have used shortcut keys; for instance, **control+b** to make text bold, or **control+r** to right align text. Word has a lot of features, many of which you may not use frequently. While most features have a shortcut key to access them, remembering the shortcut key for every possible feature is not practical. It is important to be familiar with the ribbon as this is a consistent way to access features. Knowing how to get around the ribbon also means not needing to remember keystrokes for every feature.

To access the ribbon, press **alt**. The focus moves to the "tab" control header for the last used tab, or the "Home" tab when Word is first started. From the tab control header, the **arrow** keys can be used to move between the different tab control headers. In Word 2016, the last option is "Tell Me", which is an edit box rather than a ribbon header. When the focus is on Tell me, type any command or option to search for it. Because it is an edit box, once the focus is on it, the **arrow keys** only move through the text in the box.

Once **alt** has been pressed, the letter associated with each ribbon tab jumps directly to that tab. These letters are:

- File, **f**
- Home, **h**
- Insert, **n**
- Draw, **ji**
- Design, **g**
- Layout, **p**
- References, **s**
- Mailings, **m**
- Review, **r**
- View, **w**
- Help, **y1**

Where a ribbon tab has two letters, these are pressed one after the other. To access the Help ribbon, press **alt**, then **y**, then **1**. Alternatively press **alt+y**, then **1**.

Some add-ons and other programs may install extra toolbars into Word. Some toolbars such as Design may not be available on all versions of Word. The design toolbar has options for drawing on touch screens. The design options are not accessible and not covered in this module.

The different tabs are each designed around particular groups of tasks (inserting items into a document, the layout of the page, etc). Each tab is further divided into sections. On the Home tab for instance, there is a section of font formatting options, and another section of paragraph formatting options. Once the focus is on the correct tab, press **control+left arrow** or **control+right arrow** to move between the sections on the tab. Press **tab** to move between individual items on the ribbon.

When moving to each ribbon tab, section or item, NVDA will read it, as well as a description. NVDA will also report the shortcut keys to use that feature via the ribbon. Note that items may have other shortcut keys as well.

The shortcut key to access the Home ribbon directly, for instance, is **alt+h**. To access the ribbon, **alt** can be pressed on its own, or in combination with the letter, **h** in this case.

Some options do not have a shortcut key and are only available using the Ribbon. One font formatting option which is only available via the ribbon is "strikethrough". This is a "toggle", which works like "Bold" which has been used previously. Strikethrough draws

a line through text as if crossing out a mistake. Let's explore the Word ribbon now and activate the "Strikethrough" option:

Activity: Using the Ribbon

1. Open Microsoft Word (press **windows+number** or use the Start menu).
2. Press **alt** to move to the ribbon.
3. Press **right arrow** to move through the tabs until the focus returns to the "Home" tab or "Tell Me".
4. If the focus moves to "Tell me" press **tab** then **right arrow**. Keep pressing **right arrow** until the focus is back on the "Home" tab. NVDA advises that **alt+h** can be used to open the home tab directly.
5. Press **control+right arrow** to move through the groupings, until the focus returns to the "Font" grouping.
6. Press **tab** to move through the items in the font grouping until the focus is on "Strikethrough". Note that the suggested keystroke is **alt, h, 4**.
7. Press **enter** to activate the strikethrough button and return to the document.
8. Type "This text has strikethrough".
9. Read the formatting information with **NVDA+f** to confirm strikethrough is set. Leave the document open to use again next activity.

Bonus Activity:

Open a new instance of Word to a blank document. Type three lines, each with the keystrokes to open the ribbon and access an item of your choice. Select one item from the View ribbon, one from the Insert ribbon and one from the Home ribbon. Centre align the text. Underline each of the ribbon names in the text. Select each letter to press in the instructions and italicize them.

2.8 Document Zoom

If NVDA is used in combination with reading the screen visually, the zoom function may be of use. The view can be zoomed in to show the document larger or zoomed out to make it smaller (and see more pages at once). This is a purely visual effect on screen. It does not alter either the font size or how the document will appear printed on paper.

Zooming in or out can be done either from the controls on the status bar, or from the View Ribbon. Alternatively, hold **control** and turn the wheel on the mouse.

Press **alt+w** to open the View Ribbon, then press:

- **q** to open the zoom dialog
- **j** to zoom to 100%, the default size
- **1** to fit one page high on screen
- **2** to fit multiple pages on screen
- **i** to fit the width of one page on screen

The same options are available from the zoom dialog, as well as the ability to enter a custom zoom level. Remember, the zoom level only affects how the document appears visually on screen. It does not affect the actual size of the text on the page, for instance, when the document is printed. Let's explore the zoom now:

Activity: Document Zoom

1. Make sure Microsoft Word is open from the previous activity.
2. Press **enter** to move to a new line before typing "Here is some text to test zoom."
3. Press **alt+w** to open the View ribbon.
4. Press **1** to zoom to fit one page on screen. Note that NVDA does not report anything.
5. Press **alt+w** to open the View ribbon.
6. Press **i** to zoom to the page width. NVDA does not report anything, however, there is no gap to either side of the page now.
7. Press **alt+w** to open the View ribbon again.
8. Press **j** to return to the default 100% zoom view.
9. Close Word without saving.

Bonus Activity:

Open a blank document. Type "Windy beach, sand flying, finally free". Report formatting with NVDA and confirm the font size. Set the zoom to 2 page and report formatting again. Set the zoom back to 100% and report formatting. Note that the font size did not change. Close Word without saving.

2.9 Saving a Document

Saving documents is a concept which should be familiar by now. As in other programs, press **control+s** to save a document. For existing documents, this saves any changes made, without prompting. For new, unsaved documents, it will bring up the Save As tab or dialog. The process varies across different versions of Microsoft Office.

In Office 2010, pressing **control+s** on a new document brings up a "Save as dialog". This dialog is like the Save As dialog in WordPad. The focus is in an edit box, ready to type in a name and choose a location.

In Office 2013 and 2016, press **control+s** to open the "Save as tab" in the file menu.

When the Save As tab opens, the focus is on "Save As". Press **tab** once to move to the list of locations. The first option is "Recent". Other options are the locations OneDrive and This PC. Press **tab** again to move to the folders within the chosen location. In Recent locations, all the options are recent folders. Choosing a recent folder opens the Save As Dialog to enter a file name and type. "OneDrive" or "This PC" also have a file name edit field, file format drop-down and sub-folders.

To open the traditional "Save as" dialog box in Office 2013 or later, choose "Browse" or "More options". To open the traditional "Save as" dialog directly, press **f12** from the document. It is possible to turn off the Save as tab, also called the "Backstage", and only use the traditional dialog box. Instructions for turning off the Save As tab are in Section 12: Word Options, towards the end of this module.

The main information needed when saving a document is what name to give the file, and where to put it. Activities in this module use the default location, the "Documents" folder. If using a shared computer, saving documents on a memory stick ensures they are not lost. To save to a memory stick, use the "Browse" button on the Save As Tab to open the Save As dialog. Use the tree view on the Save As dialog to locate the "Removable Disk". Refer to "Section 8: Basic File Management" of "Basic Training for NVDA" to refresh using folders.

To use the Save function, press **control+s**. For existing documents, this saves any changes made, without prompting. If the document has not been saved, it will bring up the Save As tab or dialog.

The next activity involves writing and saving a new document. The document saved will be a journal to use throughout this module. Keeping a personal journal is a useful activity for many reasons. For this module, the journal will contain details of some of the important features of Word. Let's create a journal now:

Activity: Saving a document

1. Open Word to a blank document. Press **NVDA+t** to read the title bar.
2. Type "Microsoft Word Journal by", followed by your name.
3. Press **enter** twice to leave a blank line, then type a sentence about each of the following:
 - How to start Word
 - Four different commands to navigate around text
 - How to make text bold or underlined
 - How to change paragraph alignment
4. Press **control+s**. In Office 2010 this brings up the Save As dialog. In later versions, it brings up the Save As tab.
5. If using Office 2013 or 2016, press ****down arrow** to either "Computer" or "This PC" (varies with Windows version). Next, press **tab** until the focus is on the "Enter file name edit" field. If using Office 2010, the focus is already on this field.
6. Type "Word journal by", followed by your name. Because this is also the first line in the document, it was likely already suggested as the file name.
7. Press **enter** to save the file.
8. Press **NVDA+t** to read the title bar and note that it now contains the file name.
9. Press **alt+f4** to close Word. Note that as the file was just saved, Word closes without prompting to save the file again.

Bonus Activity:

Open Word to a blank document. Read the title bar. Type "rose, tulip, lily, daisy". Press ***f12** to open the save dialog. Type "flowers" and press **enter**. Read the title bar again, then close Word.

2.10 Opening a Document

Opening a document works very similarly to saving a document. Pressing **control+o** opens a dialog or tab which is very similar to the save dialog or tab. If using Office 2013 or later, the save tab opens from the File menu. To use the open dialog directly in Office 2013 or later, press **control+f12**. As well as navigating through folders to find documents, the open tab also has a list of recently used documents. In Office 2010 press **alt, f**, then **r** to get to recent documents. After choosing a file, press **enter** to open it. The file will be opened and the focus will be at the start of the document.

Let's open the journal file saved last activity:

Activity: Opening a document

1. Open Word to a blank document.
2. Press **control+o**. The "Open" dialog or tab appears.
3. If using Office 2013 or 2016, press **tab** until the focus is in the "Recent documents grouping" and the name of the most recently used document is reported. Then move to step 5.
4. If using Office 2010, press **shift+tab** until the focus is in the "Items view list".
5. Press the **down arrow** to move through the list of files until you find the "Word journal" file saved last activity.
6. Press **enter** to load the file.
7. Press **control+end** to move to the bottom of the file.
8. Type a sentence each about how to save, and how to open files.
9. Save and close the file.

Bonus Activity:

Open Word to a blank document. Press **control+f12** and open the "flowers" document saved in the previous activity. Read the title bar to confirm, then close Word without saving.

2.11 Printing a Document

As with "Save As" and "Open", Word 2013 and later use a File menu tab to display the print options while earlier versions use a dialog box. Either way, the standard keystroke of **control+p** will bring up the print function.

To print one copy of the full document to the default printer, press **enter** at this point to do so. To adjust exactly what is printed before printing, press **tab** to move through the print options. These options include: printing multiple copies, printing only certain pages or using a different printer.

Note that in order to actually print, a physical printer needs to be connected. The exact options available in the print dialog or tab depend on what, if any, printer is connected and its capabilities. This is available even if no printer is connected.

If using NVDA with magnification, the right half of the screen has a preview of the document. To zoom in or out, hold **control** and scroll the mouse wheel. Note that is a purely visual feature. If larger text is needed on the printed copy, increase the font size in the document itself.

Let's explore the options for now to get a feel for where they are:

Activity: Exploring the printer options

1. Open Word to a blank document.
2. Press **control+p**. This opens the print dialog or tab, with the focus on the "print" button.
3. Press **tab** to move through the options. The options vary depending on whether a printer is attached, and its features.
4. If there are any unfamiliar options, ask a trainer, or look them up on the Internet.
5. Keep pressing **tab** until the focus is back at the "Print" button.
6. Press **escape** to close the dialog box or tab and return to the document.
7. Press **alt+f4** to close Word.

No Bonus Activity for this topic.

2.12 Document Layouts

When Word is first opened, by default it is set to "Print Layout". This layout appears visually close to how it will appear on paper if it is printed.

There are several other layouts available:

- Draft: very similar to WordPad with no margins or space around pages
- Web layout: shows how the document would appear as a web page
- Outline: highlights headings and document structure
- Read mode: designed for reading on screen rather than editing, like an eBook

When a document is saved, the layout and zoom level are also saved for that document. It is possible that files provided by others may be in different layouts.

The main layout worth covering here is Read mode. Most layout modes behave similarly to the default Print layout with NVDA. Read mode, however, is a read only layout and documents cannot be edited in this mode.

When in Read mode, the ribbon disappears and is replaced with a small menu.

Navigation also works differently in Read mode. The **up** and **down** arrow keys jump the view by one screen worth of information, although NVDA stays at the top line.

Pressing **control+down arrow** moves the focus down one line and pressing **control+up arrow** moves the focus up one line. The current line can be read with **NVDA+up arrow** (laptop: **NVDA+l**). To read from the current point onwards, press **NVDA+down arrow** (laptop: **NVDA+a**).

To exit Read mode, press escape or **control+alt+p** to return to print layout.

The views available are also on the View ribbon. To get to the View ribbon press **alt, w**, then **tab**.

That works the same as for the Home ribbon:

- **alt** takes the focus to the Ribbon
- **w** for the View Ribbon
- **tab** to move through the View Ribbon

After pressing **alt**, then **w**, or **alt+w** together, the focus moves to the View ribbon. From here, any option on the ribbon can be accessed by pressing one or two more letters. Some are more logical and easier to remember than others. For instance, press **p** to access the print Layout. To access "Draft", however, press the letter **e**. For tasks performed regularly, you may remember the key sequence.

With the focus on the ribbon, press **control+right arrow** to move through the groupings and then **tab** to move through the specific options available. In some cases, such as the document layout, the ribbon item indicates it is a "toggle button". When using **tab** to move through the ribbon, NVDA reports "Toggle button: pressed" on the currently active layout. Other layouts are reported as "Toggle button: not pressed".

Let's try Read mode now.

Activity: Document layouts

1. Open the "Word Journal" file you saved in the "Saving a document" topic previously.
2. Press **alt**. NVDA reports "Ribbon tabs, tab control", followed by the name of the current tab.
3. Press **w**. NVDA reads "w" and if View was not already selected, reads "View tab selected, alt+w".
4. "Views" is the first group. Press **tab** to move through the views until you get to the "Show" grouping. Note the toggle button listed as "pressed".
5. Press **shift+tab** to move back to the "Read mode" button.
6. Press **enter** to activate the "Read mode" button. NVDA reads the document name and first line again.
7. Press **down arrow**. NVDA reads the first line again. Visually the document may scroll to a second screen worth of text.

8. Press **NVDA+down arrow** (laptop: **NVDA+a**). NVDA starts reading through the document.
9. Press **escape** to return to print layout, then close Word without saving.

Bonus Activity:

Open Word to a blank document. Type "Press alt+w to get to the view ribbon to change document layouts." Open the View ribbon and select "Draft" layout. Press **f12** and save the document as "Layouts". Close Word, then reopen the document. Use the View ribbon to confirm which layout is selected or "pressed". Change the document to "Print" layout, then save and close Word.

2.13 Protected View

When a document is downloaded from the Internet, or from an e-mail attachment, then opened, Word automatically displays it in "protected" view. This is to prevent any malicious code attached to the document from running.

Protected view is very similar to Read mode. However, the document cannot be edited in this mode.

Press **NVDA+down arrow** (laptop: **NVDA+a**) to read the document. This is recommended to ensure that the document is indeed what you expected and safe.

If you trust where the document came from, editing can be enabled so that the document can be edited and saved as normal. Press **f6** to move the focus to the "Protected view grouping". From this grouping, press **right arrow** to the "Enable Editing" button and then press **enter** to leave protected view. The document will now have full editing and reading ability.

If you have an Internet connection, let's practise on a document from the NV Access web site.

To refresh using the Internet, please review Basic Training for NVDA Section 10. The instruction below uses the Internet Explorer web browser, which is built in to Windows. If you use another one such as Firefox, then feel free to use that instead.

Activity: Opening a protected view document

1. Open Internet Explorer (press **Windows**, type "Internet", then press **enter**) and load the page at: <http://www.nvaccess.org/trainingfiles/>
2. Locate the "protected_document" link and choose "Save Target as" from the context menu before pressing **enter** to save the document to the "Downloads" folder.
3. Press **f6** to move to the alert notification and **right arrow** to select "Open folder".
4. The folder opens with the "protected_document" file selected. Press **enter** to open the document. The document opens in Word in Protected view.

5. Try reading the document with the **down arrow**. NVDA will read the first line each time you press **down arrow**. Visually the document will scroll.
6. Press **NVDA+down arrow** (laptop: **NVDA+a**). NVDA will read the document.
7. Press **f6** until NVDA reads "Protected View".
8. Press **tab** until the focus is on the "Enable Editing" button, then press **enter**. Word is now back to its normal view although the document is still in "read only" mode, meaning it can be edited but will need to be saved as if it was a new document.
9. Close Word, without saving any changes if prompted.

Bonus Activity:

If you are familiar with email, send yourself a copy of the "Layouts" document saved last bonus activity. Open the document and enable editing before saving it again.

2.14 Getting Started Review

This section covered starting Word, as well as refreshing some of the commands from the Basic Training for NVDA module. It is important to be confident typing and reading basic text by now as well as using some of Word's basic formatting tools. Some of the key concepts in this section included:

- Starting Word (**Windows+number** from the taskbar)
- Typing text
- Editing text (**delete**, **backspace**, **control+delete**)
- Formatting text and paragraphs (**control+b** for bold. **control+e** to centre)
- Saving and opening files (**control+s** to save, **f12** for save dialog directly, **control+o** to open)
- Printing files (**control+p**)
- Document layouts (**alt+w**, then **tab**)
- Navigating protected mode. (**f6**, then **right arrow**, then **enter** to enable editing)

Activity: Getting started review

1. Open Word with the journal saved in the "Saving a document" section.
2. Select the "Microsoft Word journal by..." text, then make the text 2 font sizes larger, bold and centered.
3. Add a line after this headline and before the first sentence which is underlined and reads "Getting started with Word".
4. Move to the bottom of the file and type a sentence about how to open a document from the Internet.
5. Save the file and create a new blank document.
6. In this blank document, type a heading "Goals". Make this heading bold and underlined.
7. Type two sentences about what you would like to achieve by learning Word and some practical uses for Word.

8. Save this file as "Goals".
 9. Close Word.
-

3 Word Essentials

The aim of this section is to introduce some of the fundamental and most commonly used features in Word.

Goals for the section:

- Advanced font formatting
- Working with headings
- Using browse mode
- Bulleted and numbered lists
- Finding and replacing text
- Sorting text

3.1 Advanced Font Formatting

Microsoft Word contains numerous text formatting options. Some are purely visual effects and some are used to convey meaning. Many of the options are available on the Ribbon and some have their own keystrokes. Some of these have already been covered such as bold and italics. When using formatting such as bold, or italic, it is important to remember to turn it off when finished.

Press **control+d** to open the font formatting dialog which can be used to set many font options. When the dialog opens, the focus is in the font name field. Use the **arrow keys** to change the font, or press **tab** to move through the other options.

Word includes many fonts. For a lot of tasks, the default font is suitable. Some fonts, such as those with "script" or "calligraphy" in the name are designed to look similar to handwriting. Some, like "Wingdings" and "Webdings" do not have letters at all but symbols like smiley faces and aeroplanes. Before using an unfamiliar font, it is worth searching on the web to try to find an explanation of it or asking someone to describe it. There are other options in the font dialog to change the appearance of text. Options such as strikethrough and superscript work the same as the buttons on the ribbon. "Hidden" is a text formatting option which hides the text.

Press **control+shift+8** to toggle "Show formatting" to display hidden text and other formatting information. To hide text with a keystroke, select it and press **control+shift+h**. To unhide text, show formatting information, select the hidden text, then press **control+shift+h**. Hiding text can be useful for making personal notes in documents, or sending people different parts of a file to review. Note that hidden text can be found by anyone looking for it.

Other than hidden text, show formatting is mostly a visual setting. Show formatting displays characters for whitespace, such as spaces and line breaks which are normally simply a gap in text.

Pressing **NVDA+f** will read formatting information for the current text. Note that NVDA does not read every visual text effect that Word can do. NVDA can also be set to read formatting changes automatically as you move through text. Press **NVDA+control+d** to open NVDA's document formatting options. One way to remember this is that it is the same as Word's command to open the font dialog, with the addition of the NVDA key. From here, whether to report formatting changes after the cursor, and which formatting changes to announce can be selected.

Let's explore some of the font formatting options and font change announcement features now:

Activity: Advanced font formatting

1. Open Word to a blank document.
2. Press **NVDA+control+d**. Ensure that "Report formatting changes" and "font attributes" are both selected and press **enter** to activate the "OK" button.
3. Press **control+b** to turn on bold and type "Exploring fonts". Then, press **control+b** again to turn bold off and listen for NVDA to announce "Bold off".
4. Press **enter** to move to a new paragraph, then press **control+d** to open the font dialog. The focus starts in the font edit box.
5. Press **tab** to explore the options in the dialog box. Stop when the focus gets back to the font edit again.
6. Use **down arrow** and **up arrow** to move through the list of fonts. Choose one which sounds interesting and press **enter** to choose this font and close the dialog.
7. If you have internet access, use the web to search for a description of the font you chose, or else ask someone to describe the font. Type a paragraph on the font.
8. Read through the text from the beginning. Note the differences NVDA reports when the font and font attributes change.
9. Save the document as "fonts" and close Word.

Bonus Activity:

Open Word to a blank document. Type: "A hidden entrance hiding a huge golden treasure". Select the text "a hidden entrance hiding" and use the font dialog to set it to "hidden". Make the word "huge" 4pts larger. Set the words "golden treasure" to be yellow. Read the text. Toggle show formatting and read the text again. Close Word without saving.

3.2 Adding Headings

Similar to headings in web pages, headings can be used in a document in Word. This not only helps to identify the content under the heading, it can also be used in navigation.

The bold text used in the previous activity to create a headline distinguished it from other text, but could not be used in navigation.

As with headings in web pages, there are several levels of headings, each numbered. Heading level 1 is the most prominent heading, level 2 is the next level down, and so on.

Heading level 1 to 3 can be set with keystrokes:

- Heading level 1: **control+alt+1**
- Heading level 2: **control+alt+2**
- Heading level 3: **control+alt+3**

Heading levels in Word go down to 9. Lower level headings can be set by pressing **alt+shift+right arrow** to go down one level and **alt+shift+left arrow** to go up one level.

Headings are a paragraph style, so the whole heading does not need to be selected to change the style. Word also assumes that headings are only one line. When writing a heading, press **enter** to move to the next line and return to normal text.

To help demonstrate headings and fill out a document, the next activity will use some dummy text. Instead of typing this out by hand, a little formula can be used which will convert into "filler" text when **enter** is pressed. To do this, on a blank line, type:

=rand()

Let's make a document with some headings and text now:

Activity: Adding headings

1. Open Word to a blank document.
2. Press **control+alt+1** to set heading level 1.
3. Type "The first heading".
4. Press **enter**. The text style returns to normal on the new line.
5. Type the following, then press **enter**:

=rand()

6. Press **enter** to leave a blank line after the text.
7. Repeat steps 2 to 6 twice, replacing the heading name with "The second heading" and "The third heading" respectively.
8. Save the document with the name "dummy text".
9. Leave the document open to come back to next activity.

Bonus Activity:

Move to the third heading in the text. Press the keystroke to decrease the heading level until it is set to heading level 5. Note that being a paragraph format, the whole heading changes. Move to the second heading in the document. Press **control+alt+2** to make the heading a heading level 2. Leave the document open to return to next activity.

3.3 Browse Mode Navigation

Just as on web pages, it is possible to use NVDA's Browse mode on documents in Word. By default, NVDA is in focus mode in Word, just as it is in a form on a web page, so that text can be typed and edited. Browse mode can be toggled on and off by pressing **NVDA+spacebar**.

Once in Browse mode, the single letter navigation keys can be used to move between elements in the document. This can be very handy for moving between headings such as those created last activity. It can also be used for other element types such as links, graphics or tables.

When navigating through text in Word, in either Browse or focus mode, headings are identified, if "headings" is checked in NVDA's document formatting preferences. As with other formatting changes, "Report formatting changes" also needs to be set. Press **NVDA+control+d** to open the Document formatting dialog if needed to adjust these options.

Let's practise on the document created last activity:

Activity: Browse mode navigation

1. Ensure Word is open with the "dummy text" file created last activity.
2. Open NVDA's document formatting dialog (press **NVDA+control+d**).
3. Ensure "Report formatting changes" and "headings" are both checked and press **enter** to close the dialog.
4. Press **control+home** to move to the start of the document and listen for the heading to be read and identified as a heading.
5. Press **control+down arrow** to move down until you reach the second heading and it is reported.
6. Press **NVDA+spacebar** to toggle NVDA's Browse mode. Listen for the beep to indicate Browse mode.
7. Press **h** to move to the third heading.
8. Press **shift+h** and move back through the headings to the first heading at the top of the document.
9. Leave the document open to return to next activity.

Bonus Activity:

Open NVDA's document formatting settings and uncheck headings. Read through the document. Press **shift+h** to move back through the headings and note the navigation still works. Open NVDA's document formatting and check headings again. Use single letter browse mode navigation keys of **1** and **2** to move between the headings. Use **shift+1** and **shift+2** to move backwards through the headings. Leave the document open to return to next Activity.

3.4 Browse Mode Elements List

Just as single letter navigation works in Word in Browse mode, so does NVDA's elements list. Press **NVDA+f7** while in Browse mode to open a dialog of all the elements in the document. The elements list is not available in focus mode.

In the elements list, use:

- **alt+k** to list all the links in the elements list (the default)
- **alt+h** to list headings in the elements list
- **alt+a** to list annotations in the elements list (these are covered later)
- **alt+f** to filter the displayed elements.

When **alt+f** is pressed, the focus moves to an edit field. Text entered in this field will restrict the entries displayed in the elements list to those which include that text. If the type of elements displayed is changed, the filter will be cleared. Let's explore the elements list now:

Activity: Browse mode elements list

1. Ensure Word is the active program and the "Dummy text" file is still open.
2. Press **NVDA+spacebar** to toggle between Browse and Focus modes. Remember when NVDA goes into browse mode, the sound is a lower beep rather than a higher click. Ensure NVDA is in browse mode.
3. Press **h** to move to the second heading. If NVDA reads "H", then it is in focus mode. Press **backspace** to remove the "h", then repeat step 2 to go back to Browse mode.
4. Press **NVDA+f7** to open the elements list dialog.
5. Press **alt+h** to set the element type to "headings".
6. Press **tab** to move to the tree view. NVDA will report "tree view" and the name of the current heading, which is "The second heading".
7. Press **down arrow** to move down to "The third heading".
8. Press **enter**. Note that the cursor has now moved to "The third heading".
9. Close Word without saving any changes.

Bonus Activity:

Open a blank document in Word. Type "Today" in heading level 1. Type the headings "Morning", "afternoon" and "evening" in heading level 2. In between the headings, type a sentence about what you did or will do. Read through and note that the text under each heading is in normal text. Use **2** and **shift+2** to move between the three heading level 2 headings. Use the elements list to move back to the heading level 1. Open the elements list again and filter to show only headings which contain the text "ing". Read through the available headings before moving to the "Morning" heading. Close Word without saving changes.

3.5 Bulleted Lists

A bulleted list is a way of grouping items which have no particular order. Examples might be items to buy at the shop, or a list of dog breeds. In a list, each item is on a

separate line, usually indented, with a visual mark in front of each. The term "bulleted" list is used, as a filled circle called a "bullet" is used by default. It is possible, however, to use just about any symbol as the mark to identify each item.

When the first character on a line is an asterisk * followed by either a space or a tab, Word starts a bulleted list. The line is indented, with the bullet symbol at the left. Each time **enter** is pressed, a new line with a bullet is created, ready to add a new item. The asterisk is automatically added, and NVDA will report the bullet. Once the list is finished, press **enter** twice after writing the last bullet point. The final unused bullet and indent are removed. Word places the cursor at the left margin on the line directly below the last list item.

Several other key sequences will create lists with other symbols. Type any of the following, followed by space to start a list of that type:

- a hyphen (-) for a hyphenated list
- two hyphens (--) for a filled square
- a greater than sign (>) for an arrowhead pointing at each item
- a hyphen and greater than sign (->) for an arrow pointing at each item
- an equals and greater than sign (=>) for a hollow arrow pointing right
- less than and greater than signs (<>) for a filled diamond

*Note that NVDA will only read the hyphen bullet if NVDA's punctuation / symbol level is set to "most" or "all". Press **NVDA+p** to change punctuation level if desired. NVDA may not read all the symbols for the other bullet types.*

While navigating through a document, when a bulleted list is encountered, NVDA will report this. If "report formatting changes" and "paragraph indentation" are both checked in NVDA's document formatting dialog, it will also read the indent information.

Activity: Using bulleted lists

1. Open Word to a blank document.
2. Type "Here is a list:" then leave a blank line.
3. Type the following, but do not press **enter** yet:

* Item 1

4. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. NVDA will read "Bullet Item 1". It will also read indent information if NVDA is set to read this.
5. Press **enter**. The caret moves to the next line and NVDA reports "bullet".
6. Type the following, each on its own line:

Item 2

Item 3

Item 4

7. To finish the list, press **enter** a second time. The bullet is removed and the caret moved to the left margin.
8. Read the current line (**NVDA+up arrow**) and formatting information (**NVDA+f**). It should be blank with no indent. Press the **up arrow** and read back through the list.
9. Save the document as "lists" and Leave the document open to use next activity.

Bonus Activity:

Press **enter** to leave a gap after the list. Type a hyphen (-) then press the **spacebar** to start a second, hyphenated list. Type "Another list, first item", then add "second item", "third item" and "fourth item". Move back through the list and note whether the hyphens are read. Adjust NVDA's "Punctuation / symbol level" to ensure the hyphens are read and re-read the list.

3.6 Manual Bullets

Another way of creating a bulleted list is by pressing **control+shift+l**. This adds a bullet to the first line of the current paragraph. If multiple paragraphs are selected, it will bullet each of them. Any blank lines will also be bulleted.

Note that bullet indentation using the shortcut may be different on some versions of Word to typing an asterisk then space.

Press **enter** after any bulleted paragraph to add a new bullet point of the same style.

Changing the indentation of a list can be done from the context menu. Press the **applications key** anywhere in the list, then press **u** to "Adjust list indents". A dialog appears with options to change the bullet position and spacing. The paragraph format dialog or shortcut keys can also be used to adjust hanging indent (Hanging indent is covered in Topic 6.5, Indentation). A list can be converted back into normal text by pressing **control+shift+n**.

Let's practise on the document created last session:

Activity: Manual bullets

1. Ensure Word is open with the "lists" document from the previous activity open.
2. Move to the bottom of the document and press **enter** twice to leave a gap, then type the following:

Another list:
Here's item one
Now two and three
are lots of fun!

3. Select the last three lines (not including the "Another list:" text).
4. Press **control+shift+l** to turn it into a list.
5. Press **NVDA+f**. Note that NVDA reads "Style: List bullet" rather than "normal" before reading the font information.
6. Press **up arrow** and move back through the document to the top and listen to where the bullets are reported.
7. Press **control+a** to select the whole document.
8. Press **control+shift+n** to set all the text to "normal" style. Use **NVDA+f** to confirm "Style: Normal".
9. Save the "lists" file and leave it open to return to next activity.

Bonus Activity:

Select the whole document. Press **control+shift+l** to create a list. Navigate through the document and note how not only list items, but blank lines are also bulleted. Select the whole document and convert it back to normal text. Move to the first list, select its list items and convert them back into a list. Do the same for all the lists in the document.

3.7 Numbered Lists

Numbered lists are used when the order of items in the list is important, such as steps in a recipe. Numbered lists work very similarly to bulleted lists. After setting up the first item, numbering of subsequent items is automatic and incremental. As with bullets, there are a number of styles which can be used:

- 1. A 1 followed by a full stop
- 1) A 1 followed by a right parenthesis (a round bracket)
- (1) Left parenthesis, then 1, then right parenthesis
- 1> A 1 followed by a greater than sign
- 1- 1 followed by a hyphen

Letters can also be used. Starting with a), the list will be: a), then b), then c), etc. Capital letters can also be used, typing: A) creates a list that will have: A), B), C), etc.

Roman numerals can also be used: i), ii), iii), iv), v), etc.; or capitals: I., II., III., IV., V., etc.

Numbering does not substitute symbols (the way * is automatically changed to a bullet in a bulleted list). If 1. is used to start a numbered list, each item in the list will be a number followed by a full stop. Let's practise on the document from the previous activity:

Activity: Numbered lists

1. Ensure the "lists" document is open from the previous activity.
2. Press **control+end** to move to the bottom and press **enter** twice to leave a blank line.
3. Type "Here is a numbered list:" and press **enter**.

4. Type "1. The first item" and press **enter**. Note that NVDA reads 2. when the caret moves to the new line.
5. Type the following items in the list:

The second item

The third item

The fourth item

6. Navigate back to the end of "The second item" point and press **enter** to insert a new point. NVDA reads 3., as the other points have been pushed down and renumbered automatically.
7. Type "New third point".
8. Press **NVDA+f** to read the formatting information. Note the style and indent information.
9. Save the document and leave it open to use next activity.

Bonus Activity:

Make another list, this time using lowercase letters. Add two items. Make one more list and for this one use capital letters. Read back through the two lists. Note whether there is a difference in the lettering of the list started with capital letters compared to the lowercase list.

3.8 Multilevel List

It is possible to create a more complex list with several levels. A set of instructions where one step may be broken up into several sub-steps, for instance.

While writing a list, as soon as a new list item is created, press **tab** to indent the item and make it a sub-item. Lists can have up to nine levels. It may be worth reconsidering the layout of the document if more than a couple of levels are needed.

While writing a list, when **enter** is pressed, the new item is created at the same level as the previous item. Press **shift+tab** before writing anything to bring an item up one level in the list and decrease its indent.

The style of multi-list created will depend on the format of the list being written. For numbered lists, whether using numbers or letters, the second level will have letters and the third level will have Roman numerals. For bulleted lists, the second level has an open circle and the third level has a filled square.

To change list style or to create a new style can be done from the Home ribbon. Press **alt+h** to move to the home ribbon, then **m** to move to the "multilevel list" option. From here, select a pre-set option by navigating with **tab** and pressing **enter** on the chosen option. Alternatively, press **d** to activate "Define new multilevel list" to customise a whole new style of list. This option allows setting up a list with different symbols or even words.

Let's create a multilevel list in the same document now:

Activity: Multilevel list

1. Ensure the "lists" document is open from the previous activities.
2. Press **control+end** to move to the bottom and press **enter** twice to leave a blank line.
3. Type the heading "Dinner menu" then make the following numbered list:
 1. Soup
 - Main
 - Coffee
4. Move back up to the end of the "Main" point and press **enter**. A new line will appear numbered 3.
5. Press **tab**. The number will change to "a."
6. Type "fish", press **enter**, then type "roast" and press **enter**.
7. The next option should be c. Press **shift+tab** to bring it back in line with "Main". NVDA reads the new indent and that this item is numbered 3.
8. Type "Dessert", then move to the end of "coffee" and press **enter** twice to complete the list.
9. Read through the list to confirm it contains "1. Soup, 2. Main, a) fish, b) roast, 3. Dessert, 4. Coffee" before saving the "lists" document and closing Word.

Bonus Activity:

Open Word to a blank document. Type the heading "Starting team:" and press **enter**. Open the "define new multilevel list" dialog. Use **tab** to move through the options and set the "number style for this level" to "First, Second, Third ...". Since the "numbering" is words which are different length, set the number alignment to "right", which ensures each list item is in line. Set "aligned at" to 2cm (.75") and "Text indent" to 2.5cm (1"). Save the changes, and write down six names in the list. Read the document over before closing Word without saving.

3.9 Finding Text

To locate a particular word or phrase in text, press **control+f** to open Word's "find" dialog or toolbar. Next, type the word or phrase to search for. Matching text will be highlighted visually while typing. Press **enter** to move to the first result.

To read the number of instances found, press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) twice. This moves NVDA's review cursor back to previous objects. Either the number of results found will be read, or "No matches".

Press **escape** to return to the document at the first result.

Within the document, press **control+page down** to move to the next occurrence of the search result. Press **control+page up** to move to the previous result in the text. When the focus moves to a result, the result text itself will be selected. Prior to performing a search, these keystrokes move to the start of the previous or next page. This behaviour can be restored with the "Go-To" dialog, which is covered later in this module.

After the last result in a document, Word will display a dialog advising that the end of the document has been reached. Press **enter** to continue searching from the beginning of the document again.

NVDA's Browse mode find command of **NVDA+control+f** provides an alternate way of searching for text while in Browse mode. Some users find this more consistent to navigate. **NVDA+control+f** opens a small dialog with an edit field to type the text to find, a checkbox to make the search case sensitive and OK and Cancel buttons. If NVDA is not in browse mode when **NVDA+control+f** is pressed, Microsoft Word's find dialog will open. One limitation of NVDA's find function is that it only finds text in the main part of the document. Text in comments and headers, which are covered later, is not found. When using NVDA's find feature, press **NVDA+f3** to find the next occurrence of a search. Press **NVDA+shift+f3** to find the previous occurrence of a search.

Using Word's find feature, let's find some text in a document now:

Activity: Finding text

1. Open Word to a new blank document.
2. Type the text "The Wild Wind" as a heading level 1.
3. After leaving a blank line, type the following, each on a new line:

When the wild wind blows,
it whistles through my windows,
waking Rex my dog.

4. Move to the top of the document and press **control+f** to open the "Find" toolbar or dialog box.
5. Type the word "wind" and press **enter**.
6. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to read whether there are any results. There should be 2 results.
7. Press **escape** to return to the document.
8. Press **control+page down** to move between results. After the last result, Word will display a dialog advising it has reached the end of the document. Press **enter** to continue searching from the beginning of the document again.
9. Save the document as "wild wind" and leave it open to return to in the next activity.

Bonus Activity:

Read through the "Wild wind" document. Set NVDA to Browse mode and use NVDA's find command to search for the word "my". Use **NVDA+f3** and **NVDA+shift+f3** to locate each instance of the text in the document.

3.10 Replacing Text

To find all the instances of a word and replace them with something else works similarly to "Find". Press **control+h** to open the Replace dialog. The focus starts in a

"find what" edit box ready to type the text to be found. Press **tab** to move to the "replace with" box and type the text to replace the found text with. For instance, typing "dog" in the "find what" box, and "cat" in the "replace with" box will replace the word dog with the word cat in the text.

Press **alt+r** to find, and then replace the next instance (initially, it needs to be pressed twice). Press **alt+a** to replace every instance of the "find what" text with the "replace with" text. Even though this is the replace dialog, pressing **enter** only finds the next occurrence of the text, just like using **control+f**.

When opening either the find, or replace functions, "find" or "find what" text will be blank initially. If find has been used previously since Word was opened, the edit box will contain the previously searched for text. The text is selected, so typing anything new replaces the text. Alternatively, unselect and edit the existing text.

Let's replace text in the "Wild wind" document now:

Activity: Replacing text

1. Make sure the "wild wind" document is open in Word.
2. Press **control+h** to open the replace dialog. The focus starts in the "find what" edit box.
3. Type "dog".
4. Press **tab** to move to the "replace with" edit box.
5. Type "rabbit".
6. Press **alt+r** twice to replace the next instance of "dog" with "rabbit".
7. Press **escape** to close the dialog and return to the document.
8. Read through the document again and confirm that the word "dog" has been changed to "rabbit".
9. Save the document and leave it open to use one more time next activity.

Bonus Activity:

Open the Replace dialog again. Use the "replace all" button to replace all instances of the word "my" with the word "the" at once. Now replace all instances of the word "the" with the word "our". Word advises that it made 4 replacements instead of 2 this time. Close the replace dialog and read through the document.

3.11 Advanced Find

From the replace dialog, advanced options are available for either finding or replacing text. With the dialog open, press **alt+m** to activate the "more" button. The expanded dialog has a large range of options including "match case" and "find whole words only". These work like the equivalent options in WordPad which are covered in the "Basic Training for NVDA" module.

With "Use wildcards" checked, the "?" can be used instead of any single character. The "*" can be used in place of any number of characters, including zero characters. Using

this option, searching for "t?a" would find "that", "tea", "strap", etc. Searching for "t*a" would find those words as well as "tap" and "tack". It would also find words with multiple characters between "t" and "a" such as "thread", and also phrases such as "to the park". In this last example, the text "to the pa" would be selected. There is also a "Sounds like" option which will find words which sound like the text in the "find what" box.

The "Special" drop down list can be used to include non-standard characters in a search. These include: the tab character, paragraph marker, and "any digit", which is like a wildcard but only for numbers.

The "Format" drop down list can be used to specify formatting that must be in the "find what" text; for instance, text which is bold, left aligned or heading level 1.

Let's use some of these options to replace the word "wild" in the "wild wind" document now:

Activity: Advanced find

1. Make sure the "wild wind" document is open in Word.
2. Press **control+h** to open the replace dialog.
3. Type "wi?d" in the "find what" dialog and type "strong" in the "replace with" dialog.
4. Press **alt+m** to activate the "more" button.
5. Press **tab** to move through the options and use **spacebar** to check the "Use wildcards" option.
6. Press **alt+a** to replace all, then escape to return to the document.
7. Read through the document. Note that it has replaced both "wild" and "wind" and also the first half of the word "windows".
8. Press **control+z** to undo the changes and read through again to confirm the text replacement has been undone.
9. Close the document without saving.

Bonus Activity:

Reopen the Wild Wind document. Search for the word "rabbit", using the font formatting feature to specify that the text must be bold. Replace the word "rabbit" with the word "kitten" and do a replace all. Word should advise that there were 0 replacements. Close the dialog, select the whole document and make the text bold. Repeat the replace all and it should make 1 replacement this time. Close Word without saving the document.

3.12 Sorting Text

Word has a "sort" function, which can reorder text into alphabetical or numerical order. If text is selected when the sort function is started, that text will be sorted. Otherwise the whole document will be sorted. Press **alt+h** to open the "Home" ribbon, then **s** and **o** for "sort".

When the dialog opens, the focus is in the "sort by" drop down. The default option is "paragraphs". If there are headings in the document, sorting by headings is also available. Pressing **tab** moves the focus to "type". This combo box sets whether text, numbers or dates are being sorted. Press **Tab** again. The following pair of radio buttons set whether to sort ascending or descending. Ascending is lowest values first, such as "a" or "1", and highest values at the bottom, such as "z" or "9". Descending is highest values first and lowest at the bottom. If the text starts with a heading, there is an option to choose whether to ignore it or not.

If sorting text by paragraphs, remember every time **enter** is pressed to go to a new line, it creates what Word defines as a new paragraph.

Let's sort some text now:

Activity: Sorting text

1. Open Word to a new, blank document.
2. Type the text "Flowers in my garden" as a heading level 1.
3. Type the following items, pressing **enter** to put each in its own paragraph:

Roses
Daisies
Lilies
Tulips
Sunflowers

4. Press **alt+h** to open the Home ribbon.
5. Press **s**, then **o** to choose "Sort".
6. Press **tab** to explore the options on this screen.
7. At the "No header row" radio button, press the **down arrow** to select "header row". This will exclude the heading ("Flowers in my garden") from being moved.
8. Press **enter** to perform the sort. This default sort will sort all the paragraphs in alphabetical order from "Daisies" down to "Tulips".
9. Read through the text now to see the new order before saving the document as "Flowers" and closing Word.

Bonus Activity:

Open Word to a blank document. Each on a different line, type the following:

Orange
230
Apple
12
Pear
7

Sort the paragraphs ascending by "number". Note how the numbers are sorted but not the words. Now sort by "text" and note the difference. Each line is sorted according to the first character (1 is less than 2, is less than 4) and then by the second character, and so on. Close Word without saving.

3.13 Word Essentials Review

This section covered some of the important and commonly used features in Word:

- Advanced font formatting (**control+d** for font dialog)
- Creating headings (**control+alt+1** for heading level 1)
- Using browse mode
 - Using single letter navigation (**NVDA+spacebar** to toggle Browse and Focus modes)
 - Using the elements list dialog (**NVDA+f7**)
- Working with lists
 - Bulleted lists (Type ***** then **spacebar**, or press **control+shift+l**)
 - Numbered lists (Type **1** then **.** or **)** then **spacebar**)
 - Multilevel lists (Press **tab** to indent the current item. Press **alt+h** then **m** for Multi-level list styles)
- Searching for text
 - Finding text (**control+f**)
 - Replacing text (**control+h**)
 - Using advanced find
- Sorting text (**alt+h**, then **s**, then **o**)

Activity: Word essentials review

1. Open the "Word Journal" file, saved in the getting started section.
 2. Move to the end of the file and, on a new line, Type "Word Essentials" as a heading level 2.
 3. Under this heading, create a level 3 heading called "Lists".
 4. Under the "Lists" heading, type a numbered list of each of the different types of lists covered in this section. Press **enter** twice at the end to finish the list.
 5. Under an appropriate Heading 3, type a line on how to switch between focus and browse modes. Under this, type a bulleted list of some of the Browse mode single letter navigation keys and press **enter** twice to end the list.
 6. Type three paragraphs, one on using find and replace, one on sorting text and one on font effects available with control+d.
 7. Select the three new paragraphs and sort them alphabetically.
 8. Make the "Microsoft Word Journal by..." Line at the top a heading level 1 and the "Getting started with Word" a heading level 2.
 9. Save the journal and exit Word.
-

4 Proofreading

The aim of this section is to become familiar with some of the tools and techniques available to proof read documents and ensure everything is correct.

Goals for this section:

- Reading the status bar
- Using word count
- Reporting spelling errors
- Using the spell check
- Using the thesaurus

4.1 The Status Bar

The status bar in Word displays several pieces of information about the current document. Depending on how Word is set up, it includes the number of pages, the position on the current page, the word count and the document language. The status bar also contains options to change the page view and zoom settings.

The word count section of the status bar displays the total number of words in the current document. If any text is selected (say, 3 words in a document with 120 words), it will read as "3 of 120 words".

To read the status bar, press **NVDA+end** (laptop: **NVDA+shift+end**). Because a lot of information is reported, a Braille display can be particularly useful when reading the status bar.

Like other NVDA commands, press **NVDA+end** (laptop: **NVDA+shift+end**) twice quickly to spell the information. Press the command three times quickly to copy the text to the clipboard.

The focus can also be moved to the status bar by pressing **f6**. This keystroke moves the focus between the document, the status bar, any task panes, the ribbon and back to the document. Press **shift+f6** to move back to the previous item; for instance, from the status bar back to the document.

With the focus in the status bar, the **left** and **right** arrow keys, or **tab** and **shift+tab**, move between each item.

Let's explore the status bar now:

Activity: Reading the status bar

1. Open Microsoft Word to a blank document.
2. Type the following lines of text:

Simple Shortbread:

Mix half cup sugar, a cup of butter and two cups flour.

Spread into baking tray.

Bake at 190c / 375F for 40 minutes.

3. Press **NVDA+end** (laptop: **NVDA+shift+end**) to read the status bar. be alert for NVDA to read the number of words.
4. Select the last line ("Bake for 40 minutes").
5. Press **f6** to move the focus to the status bar.
6. Press **tab** to move through the items and determine what each is and find the word count, which should read "4 of 22 words".
7. Press **shift+f6** to return the focus to the document.
8. Press **NVDA+end** (laptop: **NVDA+shift+end**) to read the whole status bar again and practise picking out individual pieces of information, such as the word count.
9. Save the document as "shortbread" and leave it open to use next activity.

Bonus Activity:

Spell the text in the status bar. Copy the text in the status bar to the clipboard. Open a new, blank document and paste the copied text. Delete everything except the number of words ("8 of 26 words"). Save the file as "shortbread statistics". Move back to the shortbread document and copy the text of the title bar. Return to the shortbread statistics document and paste the copied text at the top of the document. Save and close the statistics document.

4.2 Word Count Dialog

Many of the items on the status bar can be interacted with. Pressing **spacebar** or **enter** on individual items will often bring up related options or a dialog box.

Activating the word count status bar item opens a dialog box with information about the number of pages, words, characters, paragraphs and lines in the document. If text is selected when the dialog opens, the statistics provided will be for the selected text only.

To open this dialog box directly from within the document, press **control+shift+g**.

When the dialog opens, the information is read. Press **NVDA+b** to read the information as a whole again.

As with many informational dialog boxes, the regular cursor movement keys cannot be used to navigate the information. Pressing **tab** and the **arrow** keys only moves from the close button to the "include textboxes, footnotes and endnotes" checkbox and back.

Each piece of information in this dialog box is an object. The next and previous object commands will step through these one by one.

In desktop layout, press **NVDA+numpad 4** to move to the previous object. Press **NVDA+numpad 6** to move to the next object. Press **NVDA+numpad 5** to re-read the current object.

In laptop layout, press **NVDA+shift+left arrow** to move to the previous object. Press **NVDA+shift+right arrow** to move to the next object. Press **NVDA+shift+o** to re-read the current object.

For a more in-depth review of object navigation, please refer to "Section 12: Object Navigation" in the "Basic Training for NVDA" module.

Activity: Word count dialog

1. Ensure the "Shortbread" document from the previous activity is open in Word.
2. Press **control+shift+g** to open the Word count dialog.
3. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to read through the dialog box object by object. This reads the number of pages, words, characters, paragraphs and lines. Use the commands to move between objects to become familiar with the information presented in the dialog box.
4. Move the focus to the "Close" button and press **enter** to activate it to return to the document.
5. Select the first two lines of text.
6. Press **f6** to move to the status bar.
7. Press **tab** to move to the "word count" information, then **enter** to open the "word count" dialog.
8. Use the keys from step 3 to read through the information which is now only counting the selected text.
9. Close the dialog and Word.

Bonus Activity:

Reopen the Shortbread document and the word count dialog. Leave this open and open a new copy of Word with the shortbread statistics document. At the bottom of the statistics document, either copy or type the number of characters, paragraphs and lines from the shortbread document. Close everything.

4.3 Reporting Spelling Errors

Visually, Word highlights spelling errors with a wavy red underline. By default, NVDA reports spelling errors while navigating through a document. While typing, Word checks the spelling of a word when it is finished with **spacebar** or punctuation. If a spelling error is detected, NVDA will indicate this with a buzzing sound.

Whether NVDA reports spelling errors is set using the "Report spelling errors" in the document formatting dialog. Press **NVDA+control+d** to open the dialog and check or uncheck "report spelling errors" to change this setting.

When a spelling error is located, the word can be edited just like any other text. When the caret moves out of the word again Word will recheck the spelling and whether the edited word is in its dictionary or not.

When the caret is on a word identified as a spelling error, open the context menu and the topmost items will be suggestions for replacement words. Use the **up** and **down** arrow keys to select an appropriate word and press **enter** to replace the misspelt word with the selection.

Activity: Reporting spelling errors

1. Open Word to a blank document.
2. Press **NVDA+control+d** to open NVDA's document formatting dialog. Ensure that "Report formatting changes" and "report spelling errors" are both checked, using **spacebar**, if needed.
3. Type the following line being sure to include the spelling errors:

Litte pog's huse of straw

4. Press **control+home** to move to the top of the document, then press **control+right arrow** to move word by word through the text to find the three spelling errors.
5. When a spelling error is located, press the **applications key** to open the context menu.
6. Press **down arrow** to move through the list and find a suitable alternative word.
7. Press **enter** to accept the new word.
8. Repeat steps 4 to 7 to re-read through the text, ensure the spelling error has been fixed, search for any more spelling errors and fix them.
9. Close Word without saving.

Bonus Activity:

Open Word to a blank document. Type "Gren leaves onn the ttee." (including the three spelling mistakes). Read the line and note NVDA reporting the spelling errors. Open NVDA's document formatting dialog and turn off reporting of Spelling Errors (alt+r). Save the changes, and read the text again. Move to the first spelling error and use the context menu to find a suitable replacement word. Turn on NVDA's reporting of spelling errors. Read the sentence again then correct the remaining errors. Proof read once more, then close Word without saving.

4.4 Exploring Spell Check

Word has a spell check feature which systematically checks for errors in a document. Misspelt words can be corrected or added to the dictionary. Grammatical errors can be fixed or ignored. Grammatical errors include: extra space between words, duplicate words or misused words. An example of a misused word is "an" in the sentence "I have an hat" (which should be "I have a hat").

Press **f7** to start spell check. Word searches from the start of the current sentence.

Office 2010 and earlier use a dialog, and Office 2013 and later use a task pane. Press **tab** to move between the various controls.

In Word 2013 and 2016, the focus starts on the "Ignore" button. To read the misspelt word, press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**). In other versions of Word, the focus starts on the misspelt word or error, and NVDA reads and spells it. In Word 365, NVDA also reads the text immediately surrounding the error. Use the standard reading keys to read the error and surrounding text.

After the error is read, press **numpad 5** (laptop: **NVDA+control+.**) to read only the misspelt word again. Press the keystroke twice quickly to spell the error.

The exact layout of the controls varies between versions of Word. The options themselves, however, are the same. The main actions available are:

- "Ignore once": Ignores the current error
- "Ignore all" or "Ignore rule": Ignores all instances of this error from now on
- "Add to dictionary": Adds the current word to the custom dictionary (spelling errors only)
- "Next sentence": Ignores this error and the rest of the sentence (grammar errors only)
- "Suggestions": A list of alternate words or sentence wording; use the **arrow** keys to navigate
- "Change": Change the error to the currently selected suggestion
- "Change all": Changes all occurrences of the error to the current suggestion

From anywhere in Spell Check, press **escape** to return to the document at the error to edit the text. Press **f7** to continue the spell check from the start of the current sentence.

Choose an action which either ignores the error, fixes it or adds it to the dictionary. Word performs the action, then continues checking from that point onwards.

Let's explore Spell Check now:

Activity: Exploring spell check

1. Open Word to a blank document.
2. Type the following line, being sure to include the spelling errors:

Dad's whethereed green bpat floats gemtly along the Mearity river.

3. Press **f7** to start the spell check. NVDA reads the first error. If using a version of Word which does not automatically spell the error, press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to read the first spelling error found.
4. Press **numpad 5** (laptop: **NVDA+control+.**) twice quickly to spell the misspelt word. It should be the first error, which is "whethereed".
5. Press **tab** and move through the options in the spell check to the suggestions list view.

6. Use the **down** and **up** arrow keys to read the different suggested replacement words.
7. Press **tab** to move through the other Spell Check options.
8. Press **escape** to return to the document.
9. Save the document as "spelling" and leave it open to return to next activity.

Bonus Activity:

Move to the first spelling error, "whethered". Open the context menu and note the alternative words offered. Press **escape** to close the context menu. Press **f7** and read the words suggested by spellcheck. Confirm that the suggested words are the same as those offered in the context menu. Press **escape** to close spell check. Leave the document open for next activity.

4.5 Using Spell Check

Spell check has a lot of options, but many of them are quite logical. When checking a well-known document, the correct action to perform may be obvious.

Spell check contains accelerator keys to quickly perform the available actions. These keys are:

- "Ignore once": **alt+i**
- "Ignore all" or "Ignore rule": **alt+g**
- "Add to dictionary": **alt+a**
- "Next sentence": **alt+x**
- "Suggestions": **alt+n**
- "Change": **alt+c**
- "Change all": **alt+l**

Note that in some versions of Word, the accelerator keys do not work correctly. If **alt+letter** (such as **alt+i** to ignore an error) does not work, press the letter on its own from. Pressing the letter on its own does not work in the read-only edit showing the error in context in Word 365.

In Word 365, while moving through the suggestions, NVDA reads each word, as well as its definition. In Word 2013 and 2016, from the suggestion, first press **tab** to a button to read the suggestion aloud. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move to the next object and read the definition.

In the previous activity, the text was: "Dad's whethered green bpat floats gemtly along the Mearity river". When corrected, this sentence should read "Dad's weathered green boat floats gently along the Mearity river".

Most of the errors encountered in this activity are simple spelling errors. The exception is "Mearity" which is the name of the river the boat is floating along. Since it is not a common word or name, spell check detects it as an error.

In Word 2013 and later, pressing **escape** leaves the spell check pane open but moves the focus to the document. In earlier versions of Word which used a spell check dialog box, pressing **escape** closed the dialog. In either case, pressing **f7** will open the pane if it is not open, or return to it if it is. Let's go back to spell check and correct the document now:

Activity: Using spell check

1. Ensure the "spelling" document from last activity is open. Press **control+home** to place the caret at the start of the document.
2. Press **f7** to start spell check.
3. Read the misspelt word, which should be the word "whethered".
4. Press **tab** until the focus is on the list of suggested words.
5. Use the **down** and **up** arrow keys to ensure "weathered" is selected.
6. Press **tab** to move to the "change" button.
7. Press **enter** to activate this button which will change the word and move to the next error.
8. Press **escape** to close spell check.
9. Leave the document open to return to next activity.

Bonus Activity:

Open a new Word document. Type "Jihn's rockrt ains for rhe moom" including the spelling errors. Use the spell check function with **f7** to correct each of the words. The sentence should read "John's rocket aims for the moon". Close the document without saving.

4.6 Switching Between Spell Check and the Document

While using spell check, it can be useful to return to the document to edit or read the full context of an error.

Press **escape** to return to the document at the point of the current error. When finished, press **f7** to restart the spell check from the start of the current sentence. Where spell check starts from depends on the position of the caret, not where it may have checked to before.

In Word 2013 and later, press **shift+f6** or **escape** to return to the document at the point of the current spelling error. When ready, press **f6** or **f7** to move to the spell check. If using Word 2010, spell check uses a dialog box rather than a pane, so **f6** does not work.

The "Not in dictionary" edit box gives context for errors without leaving Spell Check. In Word 2010, press **alt+shift+:** to jump to this edit. In Word 365, press **shift+tab** to move back through the controls to the "Not in dictionary" edit. Type in this edit box to edit the text. When finished, press **alt+u** to resume the spell check.

It is important to read the document carefully yourself, not only to rely on spell check. Sometimes, spell check may not flag something as an error, even if it is incorrect. Spell

check will not find any errors in the text "I am dad today". The intended meaning may have been "I am sad today", which means something quite different.

In the last activity, spell check got up to the word "bpat". The sentence should be: "Dad's weathered green boat floats gently along the Mearity river". Let's practise moving between the document and spell check to read the context of the error:

Activity: switching between spell check and the document

1. Ensure the "spelling" document is open. Press **f7** to start spell check.
2. Re-read the misspelt word, which should be the word "bpat".
3. Press **escape** to return to the document. Use the regular navigation keys to read through the text a few words before and after the spelling error.
4. Use the editing keys to correct the word "bpat" to "boat".
5. Press **f7** to restart spell check and move to the error "gemtly".
6. Press **tab** to move to the suggestions list. Use the **arrow** keys to ensure the word "gently" is selected.
7. Press **tab** to move to the "change" button and activate. The word is replaced with the correct suggestion and spell check moves to the next error.
8. Use the commands covered in the last few topics to spell check the rest of the document. Remember to read the error, use the list of alternate words and the "change" or "ignore" buttons as needed.
9. Read through the text to proofread it manually. Ensure the text now says: "Dad's weathered green boat floats gently along the Mearity river". Save the document and close Word.

Bonus Activity:

Type the following three lines, being sure to include the error on each line:

Error onee

Eerror two

Error thre

Press **f7**. The spell check starts on the first line and picks up the word "onee". Press **escape** and then move to the end of the document. Press **f7** and note that the spell check starts on line three. Return to the document and move to the error on line two. Use the context menu to confirm the error exists, then correct the error. Using any of Word's spell check features, correct the other two errors. Close Word without saving.

4.7 Thesaurus, Synonyms and Substituting Words

As well as checking whether spelling is correct, Word also has a thesaurus. When the caret is on a correctly spelled word, and the **applications key** is pressed, the context menu contains an item called "Synonyms". Activating this opens a sub-menu of alternative words. If "cat" is selected, for instance, synonyms such as "feline", "kitten" and "tabby" will be offered. Selecting one of these will replace that instance of "cat".

If a word is repeated frequently in a document, it could be worth replacing some instances with synonyms. Avoiding excessive repetition makes text easier to read and presents as more professional.

Word may not offer any synonyms for some words, or may not offer every possible synonym. Some of the synonyms offered may be for alternate definitions, which may not be suitable.

In Word 2013 and later, the bottom item in the list of synonyms is "Thesaurus". This opens the Thesaurus pane, which works exactly like the spell check dialog, except with a list of synonyms instead of a list of alternate spellings. This pane may offer more synonyms than the list in the context menu. The list is also presented as a tree view, sorted by definition. This is useful, as some words may have multiple definitions.

The thesuarus is also available on the "Review" ribbon. Press **alt+r** to open the review ribbon, then press **e** for the thesaurus.

Activity: Thesaurus, synonyms and substituting words

1. Open a blank document in Word and type "Black cat likes to chase small animals."
2. Select the text and make a second copy of it on a new line.
3. Press **home** to ensure the focus is at the start of the second line.
4. Press the **applications key** to open the context menu.
5. Choose the "Synonyms" option (either press **y** or **down arrow** to it and press **enter**).
6. Use the **down** and **up** arrow keys to read the different synonyms available.
7. If there is a suitable replacement word, select it by moving to it and pressing **enter**. Otherwise, press **alt** to close the menu.
8. Press **control+right arrow** to move through the text word by word. Repeat steps 4 to 7 to find synonyms for each word.
9. Re-read the whole document to ensure the two lines still make sense. Save the document as "synonyms" and close Word.

Bonus Activity:

Open the "synonyms" document, and re-read it. Choose a word, then open the thesaurus. Use the thesaurus to select an alternate word. Repeat for three other words in the text. Read the text to ensure it still makes sense. Finally, save the document and close Word.

4.8 Proofreading Review

This section covered some of the proofreading tools available in Word. In particular, checking the length of text, as well as correcting spelling and grammar and using the thesaurus to find alternate words. Some of the key concepts included:

- Using word count

- Reading the status bar
- Practising navigating by object to read word count
- Using spell check
 - Using automatic reporting of spelling errors
 - Using the context menu to correct spelling
 - Using the spell check feature to correct spelling and grammar
- Using the thesaurus

Activity: Proofreading review

1. Open the "Microsoft Word Journal" in Word.
 2. Move to the bottom of the document, type a heading "Proofreading" and underneath type a sentence on each of the following:
 - Steps to find out the number of words in a document.
 - Different ways to check spelling.
 - Three options available in the spell check task pane or dialog.
 - Describe how to control whether NVDA reports spelling errors.
 - Explain the difference between replacement words offering in the context menu on misspelt words compared to correctly spelt words.
 3. Run a spell check on the document. type a sentence at the bottom describing the message when the spell check is completed.
 4. Use the word count feature to find out the number of words and lines in the document and type a line containing that information.
 5. Type the sentence "My best friend purchased a singing bird from the market."
 6. Use the Synonyms feature to replace as many words as possible in that sentence without changing the meaning of it. Read over the updated sentence to ensure it still makes sense.
 7. Save the journal and close Word.
-

5 Templates and Styles

The aim of this section is to become familiar with some more of Word's document formatting features. It covers changing the look of a document as well as setting up pre-filled document templates.

Goals for this section include:

- Setting up templates
- Using templates
- Using Styles
- Setting up styles
- Using themes

5.1 Templates

Generally, most documents will have the default file type of "Word document (*.docx)". The ".docx" at the end of the file name tells the computer the file is a document which is normally opened in Word. Similarly, ".html" indicates a web page to be opened in the web browser and ".mp3" is used for audio files.

When saving a file in Word, it is possible to change to other document types, for instance, for compatibility with other word processors. One of the options is "Word template (*.dotx)". A template is a special type of Word file which other documents can be created from. There is also *.dotm, which is a macro enabled document template. Macros are covered in "Section 13: Advanced Topics".

Whenever a blank document is created in Word, a template is used which specifies the font, paper size, colours, paragraph spacing, etc. Aside from the blank document template, Word comes with many other templates. One template which comes pre-setup with content as well as layout is for a résumé. A résumé, or curriculum Vitae, lists skills and experience when applying for jobs. The template includes headings such as "Education", "Skills and abilities" and "Experience". It contains points such as "job title" and "company" ready to be replaced by actual information in order to create a résumé.

One advantage of a template is that it is not overwritten when a document created from it is saved. Instead, it opens the save dialog or task pane as if the whole document had been written from scratch.

Let's create a template for a shopping list now:

Activity: creating a template

1. Open Word to a new, blank document.
2. Press **control+alt+1** to create a Heading 1 and type the heading "Shopping list".
3. Leaving a blank line under the heading, type a numbered list including "Bread" and "Milk".
4. Press **f12** to open the "save as" dialog.
5. Type the name "Shopping list".
6. Press **tab** to move to the "Save as type" drop down list.
7. Press **down arrow** to select "Word template (*.dotx)" and press **enter** to select this.
8. Press **enter** a second time to activate the "save" button and save the template.
9. Close Word.

Bonus Activity:

Create another template, which will be a letter thanking people who responded to a job advertisement. Set the font to something formal, size 12 point. On the first line type "Dear " and leave a space to include the recipient's name. Type a paragraph thanking the person for their application before signing off. Proofread and spell check the text, then save it as a template and close Word.

5.2 Using a Word Template

When Word 2013 or later opens, by default, the Start Screen is displayed, which contains a list of templates new documents can be created from. Pressing **enter** as soon as this screen appears selects the default blank document option, which is itself a template.

In any version of Word, press **alt+f** to open the File menu, then **n** to choose New. Press **tab** to the blank document template, then use **arrow keys** to select a template. Press **enter** to create a new document from the selected template.

In Word 2013 and later, user created templates are separated from pre-included templates. After pressing **alt+f**, then **n**, press **tab** to move to either the "Featured" or "Personal" tab. Use the **down arrow** to move from Featured to Personal, then press **enter** to open user created templates.

To edit a template, use "Open" rather than "new", as if opening a regular document. System templates, including the blank document template (called "normal.dotm") can be edited. Where templates are stored depends on the version of Word and how it is setup.

Let's create a document from the template made last activity:

Activity: Creating a document from a template

1. Open Word. If the focus starts in a new, blank document, press **alt+f**, then **n**.
2. If using Word 2013 or later, press **tab** until the focus is on either "Featured" or "Personal".
3. If using Word 2013 or later, press **down arrow** to move to "Personal", then press **enter**.
4. Press **tab** to move to either the personal or home grouping, or featured list (depending on version of Word).
5. Use the **arrow** keys to navigate around the available templates to find "Shopping list" which was saved in the previous activity.
6. Press **enter** to create a new document based on this template.
7. Navigate to the bottom of the document, and add "Vegetables", "flour" and "juice" as items in the list.
8. Press **control+s**. Note that Word opens "Save As" dialog as if the document had been written from scratch.
9. Save the document as "completed shopping list" and close Word.

Bonus activity:

Create a new shopping list based on the template used in the previous activity. Note how it contains the outline from the template only and not the list contents. Close the template without saving. Create a new résumé using the template from the featured on built-in templates. Read through the contents. If desired, create your own résumé based on the template. Save the file, then close Word.

5.3 Applying Styles

The headings, bulleted lists and numbered lists covered previously are all "styles". There are other styles built in, and it is possible to create new styles as well.

Styles can define the font and paragraph settings of a section of text. The advantage of using Styles is that once they are setup, they can be used throughout documents without needing to set the characteristics of each instance. Headings which are 2pt larger, bold, underline and red, might be desired in a particular document. All those attributes can be setup once as the "Heading 1" style. As long as "Heading 1" style is specified for each heading in the document, they will all be the same.

Changing the "Heading 1" style later will change every heading in the document at the same time. Styles are also used by Word for features such as a table of contents, lists and converting to other formats.

Some styles, such as Headings and lists, can be set with a keystroke. Styles can also be set using the "Apply styles" toolbar, by pressing **control+shift+s**. When opened, the focus of this toolbar is the "Style name" drop down list, which always has the style at the caret selected.

The next activity sets up a document with a title and sub-titles. Title styles work like headings. After typing the title, the style reverts to "normal" when **enter** is pressed. This is useful because headings and titles are generally only one line. Let's explore the Apply Styles dialog now:

Activity: Applying styles

1. Open Word to a blank document.
2. Press **NVDA+control+d** to open the Document Formatting category of NVDA's settings dialog. Ensure that "Report styles" is checked as this module will expect this option to remain set from now on.
3. Press **control+shift+s** to open the "Apply styles" toolbar. The focus starts in the "Style name" drop down list, with the current style "Normal" selected.
4. Press **down arrow** to move through the styles and find "Title".
5. Press **enter** to select the "Title" style. The focus returns to the document, ready to type.
6. Type "Today's menu" and press **enter**. Press **NVDA+f** and note that the style has reverted to "Normal".
7. Press **control+shift+s** to open the "Apply Styles" toolbar and choose "subtitle".
8. Type the subtitle "Breakfast". On the next line, type what you ate for breakfast. Note that the subtitle style was only used for one line.
9. Save the document as "menu", and leave it open for the next activity.

Bonus Activity:

Create a new, blank document. Use Apply Styles to type a heading in "Book Title". Type a line each in "Subtle Emphasis", "Emphasis" and "Intense Emphasis". Use NVDA's report text formatting command to compare the differences between the styles used. Close the unsaved document without saving.

5.4 Selecting a Style by Name

In the Apply Styles toolbar, the name of the desired style can be typed. This can be faster than using the **down arrow**.

The "style name edit" attempts to auto-complete a style name as text is typed. This works like the start menu search. If **n** and **o** are typed, for instance, the field will auto-complete the word "Normal", because that is the first style it finds starting with "no". When it does this, it will leave the "no" unselected, and select the rest of the word Normal, that is "rmal". Because it is selected, as more text is typed, it will overwrite the selected text. If the **spacebar** is pressed at this point, the suggested option will change to "No Spacing", which is the first style beginning with **n**, **o** and **space**. No Spacing is a style which does not leave any space between paragraphs.

Another feature of the Apply Styles toolbar is that once opened, it stays visible, ready to come back to by pressing **control+shift+s** again. To get back to the document from the Apply Styles toolbar without choosing anything, press **escape**. **F6** can also be used, which moves between parts of the Word window.

Remember that changing the style may change any of the font or paragraph options. It is worth using NVDA's report formatting command (**NVDA+f**) to check what the current formatting is.

Let's add today's lunch and dinner to the menu document now:

Activity: Selecting a style you know

1. Make sure the "menu" file saved last activity is open. Press **control+end** to move the focus to the bottom of the file.
2. Press **control+shift+s** to open, or move focus to, the "Apply styles" toolbar.
3. Start typing "Subtitle". Once "s" is pressed, NVDA reports "Selected ubtitle" (the word subtitle without the first s).
4. Press **NVDA+up arrow** (laptop: **NVDA+I**), NVDA will read the full line, which is "Subtitle".
5. Press **enter** to select this style (Keep typing the word if "Subtitle" is not the style autocomplete selected).
6. Press **NVDA+f** to read the formatting information for this style to compare how it differs from the normal style.
7. Type "Lunch" then press **enter**. Note that the style has reverted to Normal, and type today's lunch.
8. Use the "Apply styles" toolbar to select the "subtitle" style. Type the subtitle "dinner", and then in normal text on the next line, type today's dinner.
9. Save the "menu" document and leave it open.

Bonus Activity:

In the "Menu document", move to the "Lunch" subtitle. Open the Apply Styles toolbar and check the style used. Press **shift+f6** to move back to the document and move down to the line containing today's dinner. Press **f6** to move to the Apply Styles toolbar and read the current style. Press **escape** to return to the document without changing style.

5.5 The Styles Toolbar

The "Apply styles" toolbar is a quick and handy way of applying styles to text. Word has an additional toolbar for working with styles. Called the "Styles" toolbar, it has more advanced features, such as creating new styles. It can be confusing as the names of the two are very similar.

The "Styles" toolbar requires an extra key to bring up: **control+alt+shift+s**. It also does not automatically take focus. Once open, use **f6** to move to it. The focus returns to where it was last time. The first time the toolbar is opened, the focus moves to the "List" of styles.

If **control+alt+shift+s** is pressed and the Styles toolbar is already open, it will close the toolbar. Word does not report anything when this happens so it is good to be aware of when it is open.

The Styles toolbar contains a link to an "options" dialog box. From here, which styles to display in the list can be chosen. This makes it possible to set up a list of styles to be offered in the current document, or any documents based on this template.

Let's explore the "Styles" toolbar now:

Activity: Exploring the styles toolbar

1. Make sure Word is the active program and the "Menu" document is still open.
2. Press **control+alt+shift+s** to open the "Styles" toolbar.
3. Press **f6** to move to the Styles toolbar. The focus should start in the "List" of styles. If not, press **tab** to move to the list.
4. Press the **down** arrow to move through a few items in the list. Note these should be the same as the styles in the "Apply styles" toolbar.
5. Press **tab** to move through the items until you get to the "options" link and then press **enter** to activate this link and open the "options" dialog box.
6. Press **tab** to move through the items in the "Style pane options" dialog.
7. Press **escape** to close the "Style pane options" dialog.
8. Press **escape** again to move the focus back to the document.
9. Leave the "menu" document open to return to again next activity.

Bonus Activity:

Open the Styles toolbar again. Activate the options button and change "Select Styles to show" to "In use". Activate the OK button to close the options dialog. Read through the list of styles in the Styles toolbar again. Note that it is now easier to find styles which have been used before.

5.6 Selecting Text of One Style

It is possible to select all text in a document that matches a particular style. The text does not need to be joined. In the "menu" document, for instance, all of the subtitle text could be selected. This could then be copied to paste elsewhere as the three lines "breakfast", "lunch" and "dinner". To turn the document into a menu template, all of the "normal" text could be selected and deleted, which would leave just the titles for each mealtime ready to fill in.

To select all of the text in the document of one style, move to the Styles toolbar and locate the style to select. Next, press the **applications key** to open the context menu and choose "select all". The context menu contains several other useful options for working with all instances of styles. The current style can be updated to match selected text. To use this, change one instance of a style, such as by making a heading underlined or a different colour. Updating the style to match the selection updates the style itself. Doing this also updates all instances of text in that style, to match the changes made. Another option is clear formatting, which changes all instances of a style to normal text.

After activating "select all", or one of the other context menu options, the focus remains in the Styles toolbar. If a new style is selected it every instance of the old style would be changed to the new style. Press **escape** to return the focus to the document before copying or performing any other actions on selected text. Note that if reading the selection, with **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**), NVDA will only read the last block of text of that style. Once the text has been copied to the clipboard, reading the contents of the clipboard with **NVDA+c** will read the entire text that was copied.

As with any other selected text, remember to unselect the text when finished. To do this, press one of the **arrow keys** to move the caret.

Let's select all the normal text, that is, all the food in the "menu" document, and copy it into a shopping list made from the recently created template:

Activity: Selecting text of one style

1. Make sure Word is the active program and the "Menu" file is open.
2. If Word was still open from the previous activity, jump to the next step, otherwise, press **control+alt+shift+s** to open the "Styles" toolbar.
3. Press **f6** to move the focus to the "Styles" toolbar. The focus moves to the "List" of styles.
4. Press the **up** or **down** arrow keys to locate the "Normal" style and press the **applications key** to bring up the context menu.
5. Press **down arrow** to "Select all" and press **enter**.

6. Press **escape** to return to the document, then press **control+c** to copy all the text in "Normal" style.
7. Create a new document using the "Shopping list" template created previously.
8. Navigate to the bottom of the list and press **control+v** to paste the text. Read through the list and see that only the foods we ate were copied.
9. Close both documents without saving.

Bonus Activity:

Open the menu document again. Locate the Dinner subtitle. Select the line and make the text bold and underlined. Open the Styles toolbar and modify all instances of the style to match the selection. Return to the document and check that "Breakfast" and "Lunch" are both bold and underlined, the same as "Dinner". Save and close.

5.7 Copying and Pasting

By now, you should be familiar and comfortable with using **control+x** to cut, **control+c** to copy and **control+v** to paste. These commands can be used to copy text, documents or just about anything from one place to another.

In Word, when text is copied, the style the text is formatted in is also copied. When text is pasted, the style of the pasted text can be chosen. The exact options available depend on the styles used and whether the same style is already available in the current document.

In the previous activity, the pasted text would automatically have been normal style. If the whole original document was copied and pasted in the middle of a heading 2 style, there would have been several options. The text can be left in the original styles, merged with the document's current (Heading 2) style, keep destination formatting, or converted to plain text.

To choose how pasted text is styled, first press **control+v** to paste, then press and release **control**. This opens the "Paste options button". Note that this does not appear when text with no formatting is pasted, for instance, from Notepad. From here, press **k** to keep the text's original style or press **m** to merge the style with the document's current styles. Press **s** to keep the destination's styles, or press **t** to keep the text only. Paste as image is available by pressing **u**. Pasting as an image is discouraged, as the text will not be inaccessible. Alternatively, after pressing **control**, you can press **tab** to move through the options and **enter** to activate.

Paste options are also available via the ribbon and context menu. From the context menu, find paste, then use the **left** and **right arrows** to move between options, then **enter** to paste.

These paste options disappear if anything other than **control** is pressed after pasting. Alternatively, press **escape** to remove the paste options pop-up immediately.

Let's practise now:

Activity: Copying and pasting

1. Open Word with the "Menu" document from previous activities.
2. Press **control+a** to select the whole document, then press **control+c** to copy it to the clipboard.
3. Create a new blank document in Word and type the heading "Source formatting".
4. Press **enter** to leave a blank line, then press **control+v** to paste the copied text.
5. Press **control**, then **tab** through the options available.
6. Choose "Keep source formatting (K)" and press **enter**.
7. Under a new heading "Text only", repeat steps 4 - 6, this time choosing the "Keep text only (T)" option.
8. Move back to the top of the file and read through the text, being aware of NVDA reporting the changes in style (use **NVDA+f** to double check).
9. Close both documents without saving.

Bonus Activity:

Create a new document and type "All emphasis", leave a blank line, then type "All the time". Select the whole document and use the Apply Styles toolbar to set the style to "Emphasis". Open the Menu document once more, select everything and copy it. Come back to the new document and paste into the blank line. Press **control** and select "Merge formatting". Read the document and note the formatting of the different lines of text from the Menu document. Close everything without saving.

5.8 Creating a New Style

On the Styles toolbar there is a button called "New Style". This button enables a completely new style to be created. Both newly created and in-built styles can also be edited. To edit a style, select it from the style list, open the context menu, and choose "Modify". In both cases, the same dialog box opens with a title indicating whether a style is being added or modified.

Each style has a type. Character styles control formatting which can apply at the character level, such as font type, or bold. Paragraph styles control formatting such as text alignment and line spacing.

When a style is selected in the middle of text, if it is a character style, the current word will be set to the new style. If the new style is a paragraph style, the whole paragraph will be changed.

Linked styles can have both character and paragraph features. When chosen, the style of the selected text is changed, or if no text is selected, the whole paragraph. List and Table styles are designed for lists and tables, respectively.

Many styles are based on other styles, commonly, on the "normal" style. For example, "Emphasis" is based on "normal" but italicised. Heading styles are based on Normal but are slightly larger, etc. Someone wanting to make documents large print, could modify the normal style and set the font size to a larger size, such as 24 point. Headings, emphasis and many other styles would automatically get larger without needing to do anything else.

When creating or editing a style, the style of the following paragraph can also be set. Generally, this is either the current style, or reverts back to "normal". After writing a heading in "Heading 1", for instance, when **enter** is pressed, the style of the new paragraph automatically changes back to normal.

When editing or creating a style, it is also possible to specify whether it is only available in this document, or in any other document based on the current template.

Finally, all the usual font and paragraph formatting options are available. Depending on the style type chosen, some options may be greyed out, such as paragraph alignment for character styles.

In the next activity, a new style will be created, called "News heading". It will be based off the existing "Heading 1" style and set the following paragraph to "Heading 2" style. In use, the news heading is used to type the headline, press **enter** then attribute the author in a smaller heading. Finally, when **enter** is pressed again, the style returns to "Normal" to type the story itself. Let's create the new style now:

Activity: Creating a new style

1. Open Word to a blank document.
2. Press **control+alt+shift+s** to open the Styles dialog and press **f6** to move the focus to it.
3. Press **tab** to move to the "New Style" button and **enter** to activate it.
4. The focus starts in the "Name" field. Type "News Heading".
5. Use the dialog box navigation keys to move through the dialog. Set "Style based on" to "Heading 1", and "Style for the following paragraph" to "Heading 2", then activate the "OK" button.
6. The style will automatically be set to the new "News Heading" style. Type the heading "Big event this weekend" and press **enter**.
7. Note that the style has changed to "Heading 2". Type "by" followed by your name and press **enter**.
8. The style has now reverted to Normal. Type two paragraphs about something you would like to do next weekend.
9. Save the document as "News article" and close Word.

Bonus Activity:

Reopen the "News article" document. Create a new style and call it "News Author". Base it off Heading level 2, but make it underlined and bold. Edit the "News Heading" style to be bold and two points larger. Set the style for the following paragraph to "News

Author". Type another article under the first article about something which happened last week.

5.9 Assigning Shortcut Keys to Styles

Headings are one of the easiest built in styles to use because they have shortcut keys. Press **control+alt+1** for Heading 1 style, **control+alt+2** for Heading 2 and **control+alt+3** for Heading 3. Shortcut keys can also be assigned to any style, not only built in styles. This makes them much easier to use.

Adding a shortcut to a style is done by going to the modify style screen, pressing the "Format" button and choosing "Shortcut key". The main thing to be aware of when choosing a shortcut key, is that it is not one that is used for something else, as the style shortcut key will override its original use. To remove a shortcut key, open the shortcut key dialog again, press **shift+tab** once to get to the "current keys", select the shortcut key to remove and press **alt+r**. Styles can have more than one shortcut key.

At the bottom of the modify style dialog are several options for adding the style to the gallery or automatically updating it. There is also a radio button to set whether changes to the style affect only this document, or any new documents based on this template. Changes to styles are saved when the "OK" button is activated.

The "Format" button contains options to edit additional font, paragraph and other options which can affect the style.

The next activity assigns a keystroke to the "Intense quote" style. This style centers text, makes it coloured (blue by default) and italicised and puts a horizontal line above and below. It is used to insert a quote in text. It is often used in magazines and web articles, highlighting a key phrase from that page of the text, or to include a quote from a famous person at the start of a chapter. Since the option to modify a style is available on both toolbars, it may be easier to use the "Apply styles" toolbar rather than the full "Styles" toolbar. Let's assign a shortcut to "Intense Quote" style now:

Activity: Assigning shortcut keys to styles

1. Open Word to a blank document.
2. Press **control+shift+s** to open the "Apply Styles" toolbar.
3. Start typing "Intense Quote" and when this style is selected, **tab** to the "Modify" button and press **enter**.
4. Press **alt+o** to open the "format" button, then **k** to select "Shortcut key".
5. The focus is in the "Press new shortcut key" field. Press **control+alt+q** to add this as a shortcut key.
6. Press **enter** three times to "Assign" this shortcut key and close all open dialogs, saving the changes to the theme.
7. Press **control+alt+q** to set the style to "Intense Quote".
8. Type "A quote worthy of a special style!" and press **enter**. Note that the style returns to Normal.
9. Close the document without saving.

Bonus Activity:

Open the news article document. Add shortcuts to the "news heading" and "news author" styles. Edit the news heading style. In the "format" button, choose the "font" option and make the font use "all caps". Save and close Word.

5.10 Using Numbering with Styles

A specific style can be set to always use numbering by defining a multi-level list linked to that style. One use may be to set every chapter heading to "heading level 1", with ascending numbers at the start of each. Every time the style is set to heading level 1, it gets numbered, "1", then "2", then "3", and so on. When setting up the list type, it is possible to define up to nine levels. Sub-topics could be heading level 2 and take the form 1a, 1b, etc.

To setup a new list type, press **alt+h** to open the Home ribbon, **m** for "multi-level list", then **d** to define a new list type. In the dialog box that opens, the first option is the list level to adjust, with 1 being the main level. The first time the dialog box opens, press **alt+m** to activate the "More" button, which displays extra options.

Press **alt+k** to move to the "Link level to style" drop down and choose the style to link. For example, Heading level 1.

Press **alt+n** to choose the number style for this level. Examples of number styles include "1, 2, 3", "a, b, c", and "i, ii, iii".

The exact formatting of the number can be customised, although this is not accessible. It can be set, for instance, to always put the word "Chapter" before the chapter number. Formatting is done in the "Enter formatting for number" edit box. The contents of this edit box can be modified like any other text; however, no feedback is given.

There is an option to "include level number from" which includes a higher level number. To define sub-topic numbering such as "1a, 1b", edit level 2, and set it to include the level number from level 1. The "Include level number from" option currently only works at list level 2 (to link to level 1). When **down arrow** is pressed in the drop down, it selects the first item and jumps to the "Enter formatting for number" edit box. Object navigation can also be used to select a value from this list.

Once the list numbering is created, it is possible to come back and edit it later. On a line with the custom style, press **home** to move to the start of the line, which moves the focus to the numbering itself. From here, choose "Adjust list indents" from the context menu, which opens the list edit screen. This dialog is set out the same as the original dialog to create the custom list in the first place.

The next activity sets up a multi-level list linked to heading level 1. For more practice, at step 9, edit the list to number heading level 2 sub-topics, and add several to the document. Let's link Heading 1 to a numbered list now:

Activity: Using numbering with styles

1. Open Word to a new, blank document.
2. Press **alt+h** to open the Home ribbon, then **m** for Multi-level list.
3. Press **d** to define a new list.
4. Press **alt+m** to activate the "More" button to display more options.
5. Press **tab** to the "Link level to style" drop-down list and choose "Heading 1" from the list.
6. Press **enter** to save the new style. The focus returns to the document with the current style set to Heading Level 1 and the text "1)" before the caret.
7. Type "Introduction", press enter and type "Here is the introduction" in Normal style.
8. Press **control+alt+1** to set the style to Heading Level 1 again. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current line. NVDA will report "2)" (or "2 blank" if you have symbol level set to "None" or "Some").
9. Save the document as "Numbering and Styles" and close Word.

Bonus Activity:

Open the Numbering and Styles document. Edit the numbering style to use Roman numerals (i, ii, iii, ...). Create a new style called "Roman list", based on heading 1, and with "Roman list" set for the following paragraph. Use the Roman list style to type a list of the steps to edit numbering and link to a style. Save the document and close Word.

5.11 Themes

Editing styles makes it possible to change the characteristics of all the headings or lists in a document. Themes in Word set the visual look of the entire document at once. The standard "Office" theme is the one used by default, with black "Calibri" or "Times New Roman" text, and links and some headings in blue.

If a new theme is chosen, the base font may change. Text colour can also change for headings and links. "Normal" text is generally left black. Text using different styles will still be distinguished, for instance, headings will still be larger than normal text in the same style. Press **alt+g** to open the "Design" ribbon which has many options for changing the theme and appearance of a document.

The first item in the design ribbon is the "Themes" button. Each theme has its own set of colours and fonts. "Main event", uses the same font sizes as for "Office", but the font itself changes from Calibri to Impact, and the heading colour changes from blue to red. "Wood type", uses browns and yellows, with old west style serif fonts. "Organic" uses Garamond fonts and shades of green.

The next option is a list of "Style Sets". These buttons change the fonts and look of a document, keeping the colours and some attributes of the theme itself. "Shaded", for instance, uses the theme's font and colours but displays headings as white text on a band of colour. "Black and white capitalised" uses the theme's font but removes all colour and headings are written in all caps.

Colors, fonts, paragraph spacing, effects, page color and border all let you further fine tune the appearance of the current theme.

You can also set fonts, colours, effects and spacing and save a new theme yourself. Press **alt+g**, then, **t** then **h** for Themes, then **a** to save the current theme. Word will open a save as dialog to the default themes folder to save into. Type a name and press **enter** to save.

Finally, "Watermark" lets you set an image or text which appears faintly in the background of every page. Examples of a watermark could include a company logo or that a document is a "Draft".

Some effects, such as watermark and page border do not provide any indication with NVDA when in use. It is important not to use such effects as the only way critical information is conveyed.

Let's change the theme of the "News article" used previously.

Activity: Themes

1. Open Word with the "News article" document saved last activity.
2. Move to the top of the document and use **NVDA+f** to read the formatting on the first and second lines. Note the font, font sizes and colours used and how they differ from each other.
3. Press **alt+g** to move to the design ribbon.
4. Press **tab** to move to the "themes" button and press **enter** to open it. NVDA reports the current theme, generally "Office", by default.
5. Use **tab** to navigate through the options, choose one and press **enter** to apply it.
6. Use **NVDA+f** on the "News Heading" and "Heading level 2" lines, comparing the differences to the original theme.
7. Press **alt+g** to move to the design ribbon, **tab** to the "Style Set" button and press **enter** to open it.
8. Press **tab** to move through the list of style sets and press **enter** to choose one. Check the new formatting of the document to see what has changed.
9. Save the document and close Word.

Bonus Activity:

Open the News article again. Open the Page Borders item from the Design ribbon. Press **down arrow** to choose "box", then **tab** to "style" and select "double solid lines" before pressing **enter**. Set the colour scheme to "Yellow Orange". Set paragraph spacing to relaxed. Use NVDA's report formatting information to note the new colours and line spacing. Save the document and close.

5.12 Templates and Styles Review

This section covered some of the ways of using Styles and themes to setup the look and layout of a document. It also covered using templates to create ready to use documents to save time and effort. Some of the key concepts included:

- Templates
 - Creating templates
 - Using templates
- Styles
 - Applying styles
 - Efficiently using the apply styles toolbar
 - Using the styles toolbar
 - Selecting text of one style
 - Copying and pasting
 - Creating a new style
 - Assigning shortcut keys to styles
 - Linking numbering to styles
- Using themes

Activity: Templates and styles review

1. Open Word with your "Microsoft Word Journal". At the bottom, type a heading 2 heading "Templates and Styles".
2. Still on the heading level 2 heading, define a new multi-level list which is linked to heading level 2, uses "number style 1, 2, 3" and is aligned at 0cm. Ensure that the "Templates and Styles" heading you created now reads "4) Templates and Styles". Depending on NVDA's punctuation level, it may not read the ")" aloud.
3. Create a new style, call it "Journal bullets" based on "List bullet 2" and make it green and italicised.
4. Create another new style, call it "Journal list", based on "normal" and make it the same green, underlined, and make the font size 2 points larger. Ensure that the "Style for following paragraph" is set to "Journal bullets".
5. Using the new "Journal list" style, type "Covered this section:". The next line should automatically use "Journal bullets" style. In this style, type a list with a point on each of the following:
 - How to create a template
 - How to create a new document based on a template
 - What are three things styles are useful for?
 - What is the difference between the Apply Styles toolbar and the Styles toolbar?
6. Type a heading level 3 heading, "Sections covered so far:"
7. Use the styles toolbar to select all of the "heading 2" text from the document. Copy them and paste under the "Sections covered so far" heading. Choose the "Keep text only" option.
8. Change the theme to "Slice" and the styleset to "Shaded", then read through the document. Note the formatting changes and ensure you are familiar with the topics covered so far.
9. Save the journal and exit Word.

6 Paragraphs and Spacing

The aim of this section is to become comfortable with using appropriate spacing and paragraph formatting in documents.

Goals for this section include:

- Paragraph and page breaks
- Using the Go To function
- New navigation keys
- Paragraph formatting
- Using indents
- Using tab stops

6.1 Paragraph and Page Breaks

When typing a paragraph in Word, text automatically wraps to the next line when the edge of the page is reached. Press **enter** once to move to a new paragraph. Word leaves a larger gap between paragraphs than between lines within a paragraph. Press **control+up arrow** to move to start of the current paragraph and then up by one paragraph at a time. Press **control+down arrow** to move down to the start of the following paragraph.

Older conventions specify pressing **enter** twice to leave a blank line between paragraphs. In Word, this adds an extra, blank, paragraph. Extra lines may be present if copying text from programs which do not expand space between paragraphs the way Word does.

To move to a new line without starting a new paragraph, press **shift+enter**. This also works in the middle of a list. Generally, pressing **enter** in the middle of a list will add another bullet or number to the list. Pressing **shift+enter** inserts a line without a number or bullet. Pressing **enter** again creates another list item, retaining the list format.

To move to the start of a new page, press **control+enter**. This is called a "page break". The advantage is that there is always a new page at this point. Adding blank lines to fill the page can cause problems if text is added or removed later.

While navigating around text, NVDA will report as the focus moves to each new page as long as "Pages" is checked in NVDA's document formatting dialog.

Activity: Paragraph and page breaks

1. Open Word to a blank document.
2. Type a heading level 1 heading "Poem of bird and worm" then press **enter**.
3. Pressing **shift+enter** after each line, Type:

Sky is bright,
Birds in flight.
Sky purple, deep,
Birds go to sleep.

4. Press **control+enter** to move to a new page.
5. Pressing **shift+enter** after each line, type:

Worm in the ground,
Hard to be found.
Don't pop up your head,
Or bird may get fed!

6. Press **control+up arrow** to move to the top of the paragraph, then press **control+r** to right align this paragraph.
7. Press **NVDA+control+d** to open NVDA's document formatting dialog. Ensure "report formatting changes" and "alignment" are both checked before pressing **enter** to activate the "OK" button.
8. Press **control+home** to move to the top of the document, then **down arrow** to move through the text line by line. Note NVDA reports the new page, and also the change of text alignment on the second page. If **enter** had been pressed after each line, only the very first line would have been right aligned.
9. Save the document as "birds" and close Word.

Bonus Activity:

Open a blank document. Type the heading "Adding space". Under the heading, start a bulleted list. Add the three options "New Paragraph", "New line, same paragraph" and "New page". Add a new line after each option without adding a new bullet point and add the keystrokes to accomplish each **Enter**, **shift+enter** and **control+enter**. Save as "spacing" and close Word.

6.2 Using the Go To Function

Word has a "Go To" function, which aids quickly moving to a number of different element types. Go To is accessed by pressing **control+g**. One way to remember the keystroke is that it is in-between **control+f** for find and **control+h** for replace. It also uses the same dialog box as replace.

When **control+g** is pressed, the focus is on the "enter page number" edit. Type the exact page to move to; for instance, type "25", then press **enter**, to jump to page 25. Alternatively, use "+" and "-" to move relative to the current position. For instance, type "+4" to move forward 4 pages. Press **escape** to close the dialog box, which remains open after moving. Moving to the other element types works the same way, but will be covered in more detail as those element types are introduced.

Let's setup a document with multiple pages and jump between them now:

Activity: Using the go to function

1. Open Word to a blank document.
2. Type "This is page 1" then press **control+enter** to create a page break.
3. Repeat step 2 four times, changing the number for the current page, until there are five pages in the document.
4. Press **control+g** to open the Go To dialog.
5. Type "2".
6. Press **enter** to jump to the start of page 2.
7. Press **escape** to close the dialog and read where the focus is to verify that the focus is on page 2.
8. Repeat steps 4 to 7 and this time type "+2" to move forward two pages to page 4.
9. Save the document as "pages" and close Word.

Bonus Activity:

Open the Birds document used recently. Jump to the very top of the document. Open the Go-To dialog, press **shift+tab** once to move to the "Go to what" list and select "line". Press **tab** to move to the edit box and note the label has changed to "Enter line number". Type 3 and press **enter**. The focus moves to the third line on the page, "Birds in flight". Try going to line 9; note that it moves to the ninth line in the document, not only on this page. Close Word.

6.3 New Navigation Keys

[Topic 2.3 Writing Text](#) covered general navigation keys. These include **arrows** to move by character or line and **control+arrows** to move by word or paragraph. There are several new keystrokes which can be used in Word when navigating around documents:

- **alt+up arrow** and **alt+down arrow** moves to the previous or next sentence
- **control+page up** and **control+page down** moves to the top of the previous or next page

Once either the Find or Go To features have been used, pressing **control+page up** and **control+page down** moves to the previous or next occurrence of the last item searched for.

These keystrokes work in a number of other programs as well, so are well worth knowing. Let's practise them now:

Activity: New navigation keys

1. Ensure all instances of Word are closed, then open the "Birds" document created in the "Paragraphs and page breaks" activity.
2. Press **control+home** to ensure the focus is at the top of the document.
3. Press **alt+down arrow** to move through the document sentence by sentence. NVDA reads each sentence as the caret moves to it.

4. Press **control+page up**. The caret moves to the top of the first page.
5. Press **control+page down**. The caret moves to the top of the second page.
6. Press **control+end** to move to the very end of the text.
7. Press **control+up arrow** to move back through the document paragraph by paragraph.
8. Under the poem, type a paragraph about the differences moving by line, sentence and paragraph. Note when the page break is reported with each.
9. Close the document without saving any changes.

Bonus activity:

Open the Birds document again. Move to the end of the document and use the Go-To dialog to go to line "-3" (the current line minus three). Read the line, then press **control+page down** twice. Use Word's "Find" function to search for the first instance of "bird". Press **control+page down arrow** and note where the focus moves. Use the Go-To dialog to go to page 1. This search is the default setting for **control+page down** and **control+page up** when Word is first opened. Press **control+page down** to go to page 2. Save the document, then close Word.

6.4 Advanced Paragraph Formatting

Word has additional options for configuring paragraphs as well as previously covered formatting options such as text alignment. There are several methods to change paragraph configuration, such as a grouping on the Home ribbon, shortcut keystrokes and a paragraph dialog.

The Paragraph dialog gives precise control over indentation, spacing of paragraphs and lines, and whether paragraphs split across pages.

To open the paragraph dialog, press the **applications** key from within the paragraph to be configured, and then press **p**. Note that if text has been copied to the clipboard, **p** needs to be pressed twice to get past "Paste options" in the context menu and then press **enter**.

Below are descriptions of some of these settings.

"Outline level" is used when reading in "Outline view". This mode allows jumping directly between headings, similar to using Browse mode in NVDA.

"Left", "Right", "Special" and "By" change the "Indentation". This will be covered in the next topic.

"Before" and "After" sets the amount of blank space to leave above and below the paragraph. For instance, 11 point is the height of one character at the default font size.

Line spacing adjusts how close together lines are within a paragraph. 1.5 spaced is comfortable to read for most users. Single spaced is sometimes used when trying to fit as much as possible on a page, but may be harder to read for some users. Double spacing is effectively similar to leaving a blank line after every line of text.

Press **control+tab** in the dialog box to move to the "Line and page breaks" page. This page has options setting how lines and paragraphs are broken across pages.

"Window / Orphan control" prevents paragraphs from breaking across pages where only one line would be split.

"Keep with next" ensures this paragraph is always on the same page as the next one, even if it means pushing both to a new page.

"Keep lines together" prevents Word from breaking a paragraph in the middle when moving to a new page. Set this to prevent headings being placed on their own at the bottom of a page, or captions being split from the item they are associated with.

"Page break before" is an alternate (and often preferred) method of putting a page break before this paragraph to pressing **control+enter**.

Some of the values can be adjusted directly with keystrokes, without needing to open the paragraph dialog. Press **NVDA+f** to have NVDA report the current paragraph formatting.

To adjust line spacing:

- Single spaced (the most compact): Press **control+1**
- Double spaced (easier for some to read): Press **control+2**
- 1.5 spaced: Press **control+5**

Pressing **control+0** toggles whether a 12pt space is left at the top of each paragraph. If using a fairly standard size font at around 12pt, this effectively leaves a single line space between paragraphs, without needing to press **enter** twice.

Activity: Advanced paragraph formatting

1. Make sure Word is active with the "birds" document saved last activity open.
2. Move to the line with the heading and press **control+2** to set double spacing for the "heading" paragraph. This ensures a gap under the heading before the text without needing to leave a blank line.
3. Move to the first paragraph and press the **applications key** to open the context menu.
4. Press **p** to choose the "Paragraph" option (if there is text on the clipboard still, press **p** a second time then **enter**).
5. The focus starts in the "Alignment" drop down list. Press **tab** to move through the options in the paragraph dialog until the focus returns to "Alignment".
6. Press **control+tab** to move to the "Line and page breaks" page of the dialog box.
7. Press **tab** to move through the options in the dialog box.
8. Press **escape** to close the dialog box.
9. Leave the document open to return to next activity.

Bonus Activity:

In the Birds document, read the formatting information on each page of the text. Confirm that the paragraph formatting is only set to double spaced for the heading paragraph. Select the whole document and set line spacing to 1.5. Move to the start of the second page of the poem. Remove the page break and set the paragraph to include "page break before". Save the document.

6.5 Indentation

Indentation controls whether there is a gap between the margin at the side of the page and the text. As well as being able to set the values in the paragraph dialog, there are four keystrokes which can be used to control paragraph indent:

- Increase indent: **control+m**
- Decrease indent: **control+shift+m**
- Hanging indent: **control+t** (indents all but the first line)
- Decrease hanging indent: **control+shift+t**

These options are also found on the "Layout" ribbon. Press **alt+p** to open the Layout Ribbon, then **i** for indent, and either **l** for left or **r** for right. Next to these options on the ribbon are options to set the space before and after paragraphs. Press **alt+p** then **s**, then either **b** for before or **a** for after. Once on any of these options, the **up** arrow can be used to increase the value. The **down** arrow decreases the value. These options are also available in the paragraph dialog introduced in the previous topic.

These indents can be combined. To indent only the first line of a paragraph, press **control+m** (indent), then **control+shift+t** (decrease hanging indent). This format is often used in novels.

While NVDA does not report these changes as they are made with the shortcut keys, **NVDA+f** does indicate the paragraph indent. If turned on, "Report formatting changes" and "paragraph indentation" will also report whenever a change in paragraph indent is encountered. Press **NVDA+numpad delete** (laptop: **NVDA+delete**) to report the distance from the top and left edges of the page. This command reports the location of the current position of the caret. To find out the position at the start of the line, press **home** to move to the start of the line first. Note that this command includes the margin from the edge of the page, outside the printable area. Setting the page margin is covered later in this module.

Let's practise on the "Birds" document now:

Activity: Using indentation

1. Make sure Word is the active program and the "Birds" document is open.
2. Press **NVDA+control+d** to open the document formatting dialog.
3. Ensure "paragraph indentation" is checked and press **enter** to close the dialog.

4. Move to the last paragraph in the document and press **control+m** to indent the paragraph.
5. Press the **up arrow** to move out of this paragraph and note NVDA read "No left indent".
6. Press **down arrow** to move back into the final paragraph and note NVDA read "Left indent 1.27 centimeters" or similar (the exact amount may vary).
7. Repeat steps 4 to 6 and note the change in indent amount.
8. Press **control+shift+m** to decrease the indent and use the **up** and **down** arrow keys to check the new value.
9. Save and close the document.

Bonus Activity:

Create a blank document. Use the "=rand()" function to add text. Use the indent commands to add indent, but remove the hanging indent, so that only the first line of each paragraph is indented. Set the paragraph spacing to be 18 point. Use NVDA's report formatting command to check the spacing and indentations. Move to the start of the same lines and press **NVDA+numpad delete** (laptop: **NVDA+delete**) to report the current position. Note the difference between the indent, and the current space from the left edge at the start of the line. Once finished, close without saving.

6.6 Tab Stops

In a document, pressing the **tab** key, or using the indent command, moves the cursor to the right, to the next "tab stop". By default, these tab stops are every 1.27 cm, or half an inch. The next tab stop, therefore, may be less than one character away, or it may be the full "tab stop" distance.

Each time **tab** is pressed, the current distance from the left edge of the paper is reported. This information can also be read by pressing **NVDA+numpad delete** (laptop: **NVDA+delete**). This can be used to ensure that text is indented and still aligned directly below the text above it.

Such neat alignment is hard to achieve by pressing the **spacebar**. This is because characters in most fonts are not all the same width; for instance, "w" is almost always wider than "i". The exception is "monospace" fonts, where every character is exactly the same width. "Courier New" is an example of a monospace font.

A list of lap times could be written, for instance, so that each time is indented directly below the previous time. With more information such as athlete name and lane could be included. This information could be separated into columns on the one line using **tab** so that each item is neatly below the same item from the previous line. To do this, note the distance from the left margin reported each time **tab** is pressed. Ensure that each item in a column is the same distance from the left margin. Where text in a column is narrower than usual, for instance, **tab** may need to be pressed an extra time to line the next column up correctly.

To adjust the amount of space between tab stops, open the paragraph dialog from the context menu and activate the "Tabs..." button. When custom tab stops are added, they will overtype any default tab stops before them. The default tab stops are 1.27cm. If a tab stop is set at 3cm, then the tab stops at 1.27cm and 2.54cm will be ignored. There will still be a tab stop at 3.81cm and every 1.27cm after that. The Tabs dialog also has an option to change the default tab stops, which can be easier than customising each tab stop individually.

Let's practise using **tab** to type a list of lap times now:

Activity: Using tab stops

1. Open Word to a blank document.
2. Type "Lap Times:".
3. Directly after "Lap Times:" (on the same line), press **tab**. Note the value that NVDA reads.
4. Type "10.5" and press **enter** to move to the next line.
5. Press **tab** until NVDA reads the same value as in step 3.
6. Type "9.8" and press **enter** to move to the next line.
7. Repeat steps 5 and 6 for next three lines for the values "11.2", "12.3", and "9.5".
8. Press **up arrow** to move back through the values. Press **NVDA+f** on each line, and note that as well as font information, NVDA reads "tab" or "2 tab", etc.
9. Close the document without saving.

Bonus Activity:

Open a blank document and type the heading "Fixed and variable width fonts". In Calibri font, type "mnop" on one line, and "ijkl" on the next line. Move the cursor to between the K and L (to the fourth character) then press the **up arrow**. Read the current character and the status bar and note that the cursor has moved to the second character, after the "m". Select all and set the font to "Courier New", which is a fixed-width font. Repeat the test and note where the caret moves to on the "mnop" line.

6.7 Paragraphs and Spacing Review

This section reiterated creating new lines in paragraphs. Paragraph formatting, page breaks, indentation and using tab stops were also covered. Some of the key concepts included:

- Inserting page breaks
- New keys to navigate between sentences and pages
- Paragraph formatting
- Using indents
- Using tab stops

Activity: Paragraphs and spacing review

1. Open Word with your "Microsoft Word Journal".
 2. Move to the bottom of the document and type a heading 2 heading "Paragraphs and spacing".
 3. Using the Journal List style, type the heading "Using Enter". In the following Journal bullet list, type (in three bullet points) what **enter**, **shift+enter** and **control+enter** do.
 4. Ensuring the current style is back to "normal", type a paragraph on some of the options available in paragraph formatting.
 5. Set the paragraph to have the first line indented and subsequent lines starting at the left margin.
 6. On a new line, type: "The next tab stop is:", then press tab, note the number and type it at that point.
 7. On the next line, press **tab** until you reach that value and type how many times you had to press **tab**.
 8. Read through the document again and ensure the concepts listed are familiar. Go back and revise any unknown points. Be sure to add extra detail to the journal on points which needed revision.
 9. Save the document and close Word.
-

7 Tables

The aim of this section is to learn how to effectively use tables in word documents. It covers creating, setting up, editing and navigating tables.

Goals for this section:

- Creating a table
- Table navigation
- Setting row and column headers
- Adding rows and columns
- Deleting cells
 - Merging cells
 - Resizing cells
 - Table borders
 - Table properties
 - Table alt text

7.1 Creating a Table

Tables allow a block of information to be set out on a page in columns and rows. The Basic Training for NVDA module covered NVDA commands for navigating tables on a web page. A table could be used to create personalised calendar or "prompt" sheet of keyboard shortcuts. In the activity on using tab stops, it was important to remember to press **tab** the same number of times on each line before writing each lap time. The same thing could be done using a two column table by writing the "Lap times:" label in the

first column, and all the lap times in the second column. In most cases, it is preferable to use a table for laying out information.

With more information, multiple columns of information can be added to a table such as the information about laps completed. A line could be used for each athlete with a column for "lane", "name", "last lap time", "fastest lap time" and "laps completed". Reading across one line would give all the information about one athlete. Reading down one column would present everyone's name or last lap time. Reading the whole table would give an overview of all the information about everyone.

Inserting a table into a document is done with the Insert ribbon, which is accessed with **alt+n**. From there, press **t** to choose "table" and then use the **arrow keys** to select the size of the table. The focus starts on 1x1, which will create a table one column wide (the first number) by one column high (the second number). Press **right arrow** to increase the number of columns per row; for instance, five columns in the athletics example. Press **down arrow** to increase the number of rows. The athletics table would need one row for the headings and then one row for each athlete. Press **left arrow** to decrease the number of columns or **up arrow** to decrease the number of rows. Once the number of columns and rows is chosen, press **enter** to insert it. Using the ribbon like this, it is only possible to insert a table with up to nine columns or rows initially. If more columns or rows are needed, these can be added later. Alternatively, instead of selecting a size, press **i** to open the insert table dialog and type a number for each.

By default, tables take up the width of the page inside the margins. Columns are spread evenly across the page and rows are one-line high. Cells are left aligned by default. Use the regular alignment keys to change the alignment of the current cell. Having the leftmost column right aligned, for instance, ensures it is always close to the text in the next column.

Let's create a table now to hold information about the athletes and their lap times:

Activity: Creating a table

1. Open Word with a blank document.
2. Press **alt+n** to open the "Insert" ribbon.
3. Press **t** to select table.
4. Press the **right arrow** four times (which moves the focus from a 1x1 table to a 5x1 table).
5. Press the **down arrow** three times (which moves the focus from a 5x1 table to a 5x4 table).
6. Press **enter** to create the table and move to it in the document.
7. Save the document as "Laps".
8. Leave the document open to return to next activity.

Bonus Activity:

Leaving the "Laps" document open, create a blank document. From the "Insert" ribbon, insert a table which has three rows and six columns. Check what style is used in the

table and use report formatting feature to compare this to normal text. Use the arrow keys to navigate through the document. Close without saving.

7.2 Navigating Around Tables

Navigating around tables is the same in Word as it is on the web using **control+alt+arrows**. Press **control+alt+right arrow** to move right by one column and press **control+alt+left arrow** to move left by one column. Press **control+alt+down arrow** to move down one row and press **control+alt+up arrow** to move up one row. Note that these are NVDA specific commands (so they only work when NVDA is running).

If "Tables" is checked in NVDA's document formatting dialog, NVDA will announce information about a table when focus moves into one. Moving into a table, it will report how many rows and columns the table has, as well as where the cursor is located. Leaving a table, NVDA will report "Out of table". This setting is on by default. It can be changed by accessing NVDA's document formatting dialog with **NVDA+control+d**.

Another option in NVDA's document formatting dialog is "Cell coordinates". This option is also checked by default. With both these options checked, while moving around a table, NVDA will read the row or column that focus has just moved to. Starting in the first cell (column 1, row 1), pressing **control+alt+right arrow**, NVDA will read "Column 2". If pressed again, NVDA will read "Column 3". If **control+alt+down arrow** is then pressed, NVDA will now read "Row 2". It does not read the column this time because that has not changed. When moving right, the row is not read, for the same reason, as the row has not changed.

If **control+alt+right arrow** to move right one cell is pressed when the focus is in the last column, NVDA will announce "edge of table". NVDA also announces this when moving left from column 1, up from row 1 or down from the last row.

Let's edit the "Laps" document to create the headings "Lane", "Name", "Last lap time", "Fastest lap time" and "Laps completed" and practise moving around now:

Activity: Navigating around tables

1. Make sure the "Laps" document created last activity is open in Word.
2. Press **control+alt+left arrow** to move the focus to column 1.
3. Press **control+alt+up arrow** to move the focus to row 1. Once the focus is in row 1, press **control+alt+up arrow** again, NVDA will read "edge of table".
4. Type the heading for this column ("Lane").
5. Press **control+alt+right arrow** to move one column to the right.
6. Repeat steps 4 and 5, to fill the column headings with the remaining headings.
7. Use the table navigation keys (**control+alt+arrows**) to move to the other cells in column 1, under the "Lane" heading and type the lane numbers "1" - "3".

8. Practise navigating around the table. Move to the fastest lap time heading and move through the cells in that column. Feel free to add data to the table while navigating.
9. Save the "Laps" document and close Word.

Bonus Activity:

Open Word to a blank document. Under the heading "Compass", insert a table with three rows and three columns. Move to row 1, column 2 and type "North". Move to row 3, column 2 and type "South". Type "East" in row 2, column 3 and "West" in row 2, column 1. Move to the cell marked "North", then the cell marked "East", then "South", then "West". Save the document as Compass and close Word.

7.3 Setting Table Headings

While moving around a table, NVDA reads which column or row number the focus has moved to. Often, tables are created with column or row headings, or both. When table headings exist, it would usually be useful to have those reported. For example, in the previous activity, the table had column headings "Lane", "Name", "Last lap time", etc. In this table, moving across the columns in any row, it would be more informative to know the heading of the current column than the column number.

The row which contains the column headings can be set by moving to the start of the header row and pressing **NVDA+shift+c**. In the activity, this is the first cell in the top row of the table. The column which contains the row headings can be set by moving to the top of the header column and pressing **NVDA+shift+r**. In the activity, this could be the top of the lane number, or athlete name column. It is important to move to the start of the row or top of the column, as the headings will only be reported from that point onward.

Column and row headings can both be set in the same cell. Note that doing this will mean that when moving into row 1, the row heading in column 1, row 1 will be read. In the case of the table in the "laps" document from the previous activity, this would mean "Lane" would be announced as the "row heading" for Row 1.

To overcome that, one option is to set column 1, row 1 as the column header row, and set column 1, row 2 as the row header column. In the "Laps" document, the lane number would still be reported when changing rows. When the focus is moved into row 1, where the column header is, NVDA would read "row 1". This is because that row is before the start of the row headers.

To clear the row or column headings, ensure the focus is in the cell where the heading was set, then press the command twice. Press **NVDA+shift+r** twice quickly to clear row headings or **NVDA+shift+c** twice quickly to clear column headings.

Column and row heading settings are stored in the document as bookmarks which are compatible with other screen readers as well as NVDA.

NVDA's document formatting dialog has a "Row / column headers" option. This option needs to be checked (the default setting) in order to set or read headings.

A document can have multiple tables, each with different settings for column and row headers. One table can have multiple sets of headers by setting column headers from the leftmost first and row headers from the topmost first. That is why the focus needs to be at the start, or leftmost column with a header when setting column headers and topmost row when setting row headers. Having multiple sets of headers in a table generally indicates a table design which may need improvement. Creating such complex tables should generally be avoided where possible.

For the next activity, let's create a bus timetable, which includes a heading row to aid navigation:

Activity: Setting table headings

1. Open word to a blank document.
2. Create a table with three columns and four rows.
3. In column 1, row 1, press **NVDA+shift+c** to set row 1 as being the one containing column headings.
4. In the three cells on the first row, type headings for the three bus stops: "Home", "Shops" and "Train station".
5. Fill in the data for the "Home" column. The bus goes past our home at 8am, 10am and 2pm.
6. The bus takes 10 minutes to get to the shops, and then another 5 minutes to get to the train station. Fill in the rest of the timetable with this data (for instance, the 8am bus gets to the shops at 8:10 and the station at 8:15).
7. Navigate to Column 1, Row 1. Note how when moving between columns, only the column heading is announced, and when moving between rows, only the row number is announced.
8. Press **NVDA+shift+c** twice quickly to clear the headings, then navigate across two columns and up two rows and note what is announced while moving.
9. Save the document as "Bus" and leave Word open to return to next activity.

Bonus Activity:

In a blank document, add a heading for "Fruit" and one for "Vegetables". Under the Fruit heading, insert a table which is two columns and five rows. In row one, add the headings "Fruit Name" and "colour" to the two cells. Set row 1, column 1 as the start of the column and row headers. Add the fruits bananas, oranges, mandarins and peaches and put their colours in the appropriate cells. Add a vegetables table, which has six rows and three columns, under the heading, add the headings, "Vegetable name", "type" and "colour". Add the vegetables: potatoes, broccoli, carrots and peas. Set row 1, column 1 as the start of the row and column headings in this table. Include the colours and types. For "type", potatoes and carrots are root vegetables, and the others are plant vegetables. Read through the whole document before saving as foods and closing Word.

7.4 Adding Columns and Rows

There are several ways to add columns and rows to an existing table. The main ways are either from the context menu or the table layout ribbon. The new column or row will be inserted next to the current cell; you can choose which side.

To use the context menu to insert a column, ensure the focus is next to where the new column will be inserted, open the context menu and choose "Insert". To choose "Insert", either press **i**, or **down arrow** to "Insert" and press **enter**. Next, choose either "Insert columns to the left" or "Insert columns to the right" as appropriate. The method is the same for rows: choose either "Insert rows above" or "Insert rows below".

To use the ribbon, press **alt**, then **j**, then **l**, then either:

- **a** to insert rows above
- **b**, then **e** to insert rows below
- **l** to insert columns to the left
- **r** to insert columns to the right

All of these commands are worded inserting "columns" or "rows", plural. If the focus is in just one cell, then only one column or row will be inserted. If multiple columns or rows are selected before inserting columns or rows, then that many columns or rows will be inserted, either before or after the entire selection. Selecting cells is covered shortly.

The context menu has an additional insert option for "Cells...". This opens a dialog with four options. As well as inserting a row or column, there are options to "Shift cells right" or "Shift cells down". These two options insert a single cell in the table, moving existing cells and data across or down. Inserting individual cells changes the shape of the table, meaning the number of rows or columns is not consistent. This makes navigation more complex and should be avoided.

For the next activity, the bus company have added a lunchtime service. Let's add a new row with the extra service to the timetable:

Activity: Adding columns and rows

1. Make sure the "Bus" document created last activity is open in Word.
2. Move to column 1, row 1 and press **NVDA+shift+c** to restore the column headers which were cleared last activity.
3. Move to the bottom row in the table (where the bus goes past home at 2pm).
4. Press the **applications key** to open the context menu.
5. Press the **down arrow** to get to the "Insert" option and press **enter**.
6. Press the **down arrow** to get to the "Insert rows above" option, and press **enter**. A new row is created above the current row.
7. The new service leaves at 12pm. Navigate to the "Home" column in the blank row and fill in the bus times (it takes 10 minutes to get to the shops, and another 5 to get to the train station).

8. The bus now also goes past the hospital. It gets there 10 minutes after the train station. Navigate to the correct column, then open the context menu and use the Insert option to insert a new column. Add the times for the stop at the hospital.
9. Save the document and close Word.

Bonus Activity:

Reopen the "Bus" document. Add a new service which leaves "Home" at 1pm. A change to the route has meant the trip now travels to the hospital first, and then to the train station. Delete the train station column, and add a new column to the right of the hospital. The bus still gets to the hospital at the same time, and takes five minutes to get to the station. Read over the timetable again before saving and closing.

7.5 Other Ways of Navigating

Using **control+alt+arrows** is an excellent way to navigate a table. There are several other methods which can be used as well, such as the **arrow keys**. Pressing the **left** and **right arrow** keys will move the focus by one character through text in the current cell. Once the focus moves past the last character in the cell, pressing **right arrow** again will move to the next column. These keys stop at an extra space to the right of the last column. While not standard, pressing **enter** at this point adds a new line.

Pressing **down arrow** will move through each of the lines in the current cell before moving to the row below. From the bottom row in the bottom cell, press **down arrow** once more to move out of the table.

When entering text in a cell, it is possible to type more text than will fit visually in the width of the existing cell. If the table is as wide as the page, and the text is wider than the current cell, it will automatically wrap to a new line in the current cell. The whole row that cell is in will then become two lines high (or more if the text does not fit on two lines).

Another method of table navigation which can be used is **tab**. Pressing **tab** moves from one cell to the next, and **shift+tab** moves to the previous cell. At the end of a row, pressing **tab** again moves to the first cell in the next row. This keystroke only works with NVDA in focus mode.

Using **tab** has a couple of features worth noting. When using **tab**, the contents of the cell the focus moves to will be selected. This can make it easy to move through a table to delete or change contents quickly. If **tab** is pressed when the focus is in the bottom right cell of the table, it will automatically insert a new row at the bottom of the table. If **shift+tab** is used when the focus is in the first cell of a table, the focus does not move. Both of these features can be useful, and make **tab** a powerful tool to use with tables, but if not understood, both can cause confusion.

Let's create a simple monthly budget to practise navigating around a table:

Activity: Other ways of navigating

1. Open Word to a new, blank document.
2. Under a heading 1 heading of "Monthly Budget", create a table which has three columns and two rows.
3. Set column 1 row 1 as the column header row (**NVDA+shift+c**) and column 1 row 2 as the row header column (**NVDA+shift+r**).
4. In the three cells across the first row, type the headings "Item", "Income", and "Expense".
5. From the "Expense" heading, press **tab**. The focus moves to column 1 row 2, under the heading "Item".
6. Type "Rent" as the item, then press **tab** until the focus is in the "Expense" column. The rent is \$1000 a month, so type "\$1000" in the Expense column.
7. Press **tab**. Instead of moving out of the table, a new row is created under the "Rent" row.
8. Using **tab** to navigate (and create new rows), add rows for the expenses: "food" (\$500), "cafe" (\$100) and "electricity" (\$200).
9. Save the document as "budget" and leave it open to use again next activity.

Bonus Activity:

Create a blank document. Type a heading 1 heading "Pets". Add a table with three columns and two rows to record information about pets. In the first row, add the headings "Owner's Name", and "Breed" and "Pet's name". Setup row and column headers. In the second row add "Sally" who has a "dog" called "Spot". Press **tab** and add Mary, whose rock is called Roley and Peter whose cat is called Ginger. Under the table type a line that this document was last updated today (insert today's date). Go back to the table and use **tab** to add information for Jane, owner of Tweety the bird. Next, add Brian, who has a rock called Stoney and Nancy with Rover the dog. Use the table navigation commands to move around the table. Once confident with this, save the document as "pets" and leave it open to return to next activity. Press **alt+tab** to return to the budget document.

7.6 Deleting Rows and Columns

Columns and Rows can be deleted from cells using the context menu, or the ribbon. The process is very similar to inserting columns and rows. The most commonly used options here are "Delete entire column" and "delete entire row" which, predictably, delete the entire column or the entire row. If there are multiple columns or rows selected, all columns or rows with selected cells will be deleted. When cells are deleted, all the data in those cells is also lost.

If "Shift cells left" is chosen, all the selected cells will be deleted and any cells to the right of them will move left to fill in the gap. This will make the table narrower on these rows than others above or below them. Similarly, "Shift cells up" will delete the selected cells only and any cells below will be moved up to fill the gap. This results in the table having fewer cells in some columns or rows. Shifting cells up or left also means the cells in this

column or row may not be the same width or height as neighbouring cells. This can cause unexpected behaviour when navigating around the table where cells are missing. Most of the time, the best option is to delete the entire column or row rather than individual cells.

To delete cells using the ribbon, press **alt**, then **j**, then **l** to open the Table layout ribbon. Press **d** to select Delete, then choose **c** to delete columns, **r** to delete rows, or **t** to delete the whole table.

When any cells (or the entire table) are deleted, the contents of those cells is removed as well. To remove the table and convert the contents to plain text, press **alt**, then **j**, then **l**, then **v**. The options on the dialog which appear are:

- Paragraph Marks (p): puts the contents of each cell in a new paragraph
- Tabs (t): separates the contents of each cell in each row with a tab, with each row in a new paragraph
- Commas (m): puts a comma between the text from each cell, with each row on a new line
- Other (o): the focus moves to an edit box where the desired character(s) to place between each cell can be typed

For the next activity, working on the budget table has highlighted the amount spent at the local cafe. In order to save money, let's cut out that indulgence and remove that row now:

Activity: Deleting cells

1. Make sure Word is open with the "budget" document.
2. Move the focus to the "Cafe" row.
3. Press the **applications key** to open the context menu.
4. Press **d** to choose the "Delete cells" option.
5. Press the **down arrow** to cycle through the options and read each of them.
6. Keep pressing **down arrow** until the focus is on "Delete entire row".
7. Press **enter** to choose this option and delete the row. The focus returns to the document.
8. Use **control+alt+arrows** to navigate and check that the row has been deleted and the rows left are "rent", "food" and "electricity".
9. Save the "budget" document and close Word.

Bonus Activity:

Return to the "pets" document. Find the line with "Brian" and his rock "Stoney". Use the command to delete the cell with Stoney. Use NVDA's table navigation (**NVDA+control+arrows**) to move down the last column of the table. Next, move to the cell with Brian and move right through this row. Note what happens when moving right from the second cell. Move through the table and delete the entire row for each entry for a pet rock. Navigate around the table to ensure it is consistent again, then save and close the document.

7.7 Selecting Cells

Within a cell, pressing **shift+right arrow** will select text, just as with any other text outside the table. Once the selection reaches the edge of the cell, pressing **shift+right arrow** once more selects the whole cell. Each additional press of **shift+right arrow** will then select another cell to the right. Using **shift** with the other arrows works similarly; for instance, **shift+down arrow** selects each line in the current cell, then cells going down the column. Selecting past the end of the table can work strangely.

The selection will stay in a rectangle, rather than selecting the remainder of the line as you move down, as happens with normal text. Selecting two cells on the same row then pressing **shift+down arrow** will select the two cells below the currently selected cells as well, rather than the whole row.

The selection is read as though the whole row is selected. It is important to remember where a selection actually starts and ends, to properly identify the "rectangle" of cells. The only cells selected are those in a rectangle bounded by the the start and end cells. With the focus on B2, if **shift+down arrow** is pressed, only B2 and B3 are selected

If two or more cells are selected, multiple columns and rows can be inserted or deleted as previously covered. It is also possible to change the formatting of the selected cells or text. Pressing **delete** will remove the contents of any selected cells but leave the empty cells in place.

If text has been copied to the clipboard, pasting it when multiple cells are selected will paste a copy of the text in each of the selected cells.

In the next activity, a timetable will be created. A timetable can be used to keep track of activities for the week. Each column can cover one day, and each row a time period. Read down any column to find out what is on that day and read across any row to find out what is on at that time every day. To note that Wednesday is a day off, instead of typing it in each cell, type it on Wednesday morning and copy it to the other cells. This time, leave column 1, row 1 blank and use it as the start of both column and row headings. Let's create a timetable now:

Activity: Selecting cells

1. Open Word to a new, blank document.
2. Create a table with 8 columns and 4 rows and set column 1, row 1 as the start of both the column and row headings.
3. Leave the first cell blank and along the top row, from column 2, row 1, type the days of the week.
4. Again leaving column 1, row 1 blank, down the left column, from column 1, row 2, fill in the headings "Morning", "afternoon" and "evening".
5. Move to the cell for Wednesday morning and type "Day off" then select and copy this text (Press **shift+control+left arrow** twice to select, then **control+c** to copy).
6. Press **control+alt+down arrow** to move to Wednesday afternoon.

7. Press **shift+down arrow**. This selects both the afternoon and evening cells for Wednesday. Remember this is not currently reported correctly so it is important to remember which cells are selected.
8. Press **control+v** to paste the copied text which will indicate that the whole day Wednesday is a "day off".
9. Read through the table to ensure each time slot on Wednesday is now marked as a day off, then save the document as "timetable" and leave it open to come back to next activity.

Bonus Activity:

Open the Pets document. Move to the second cell in the first row. Select down two cells. Read the selection and note the incorrect information read. Copy the information to the clipboard and read the contents of the clipboard. Note the difference in the information read. Without changing the selection, hold down **shift** and press the **right arrow** to select the same cells in the third column. Now insert columns to the right and note that two more columns are inserted. If you want more familiarity with navigating and editing cells, populate these cells. Make up data for the "colour", and "age" of each pet. Save and close.

7.8 Merging and Splitting Cells

It is possible to join two or more cells together so they are treated as one cell. In the timetable example, all of Wednesday is a day off. One way of conveying this information is to fill in the same text for each time slot for that day. Another is to merge all of the cells for that day together. Merging turns two or more cells into one larger cell, which takes up the space of the original cells. The contents of the merged cells are joined, with each starting on its own line.

Just like inserting or deleting individual cells, merging cells can cause problems navigating. When navigating around a table with merged cells, the focus moves as if only the first of the merged cells exists. For example, if column 5 has the cells in rows 2 and 3 merged, while moving across row 3, the focus will jump from column 4 to column 6. If using **tab** rather than **arrows** or **NVDA+control+arrows**, the focus moves from column 4, row 3, to column 5, row 2, to column 6, row 3. In this case, the row header for row 2 will be read when the focus gets to column 5.

It is possible to merge cells from multiple rows and columns at once. This is discouraged as it makes navigation even less intuitive.

As with other tasks, to merge cells, either the ribbon or the context menu can be used. In either case, first select the cells to be merged. To use the context menu, press **applications key**, then **m**. If information has been copied to the clipboard, the first option will be "Merge formatting". If the focus moves to "Merge Formatting", press **m** again to move to "Merge cells". To use the ribbon, press **alt, j, l**, then **m**.

Splitting cells works similarly to merging cells except choose "split" rather than merge. A dialog box will appear with two spin edit boxes. In a spin edit, either press the **arrow**

keys to change the value by one, or type a value. In the split cells dialog, the first spin edit is for "Number of columns" (the default is 2) and the second for "Number of rows" (the default is 1).

Similar to merging cells, splitting cells affects where the focus moves to when navigating. Word will attempt to move to the most logical place. It makes navigation much easier if there are no split or merged cells in a table.

The next activity involves changing how Wednesday is setup in the timetable, so that under the heading there is one merged cell, indicating Wednesday is a day off. First, the contents of two of the cells need to be deleted, then all three merged. Let's edit the table now:

Activity: Merging cells

1. Make sure the Timetable document saved last activity is open in Word.
2. Move to the Wednesday afternoon cell.
3. Press **shift+down arrow** to select the cells for Wednesday afternoon and evening.
4. Press **delete**. This will remove the contents of Wednesday afternoon and evening.
5. Press **control+alt+up arrow** to move the focus up to the Wednesday morning cell, then press **shift+down arrow** twice to select the current cell and the two below it.
6. Press the **applications key** to open the context menu.
7. Press **m** and ensure the focus is on "Merge cells". If "Merge formatting" is selected, press **m** again. Next, press **enter**.
8. Navigate around the table. In particular, move between Tuesday and Thursday on different rows. Try using **tab** and compare with **NVDA+control+arrow keys**. Note where the focus ends up after each move.
9. Save the "timetable" document and close Word.

Bonus Activity:

Reopen the timetable document. Select the merged Wednesday cell, and "split" it back to its original cells. Let's make afternoon's "Siesta time". Except for column 1, select the remaining cells in the afternoon row and merge them. Move up and down through the table from different columns to experience moving into and out of the merged row cell. Close without saving.

7.9 Sizing Cells

By default, when a table is created, it will take up the whole width of the page, with columns divided evenly. Often, there will be more information in some columns than others. This can create some columns with multiple rows of text in each cell and lots of nearly empty cells around them.

The "autofit" options set the width of the table's columns automatically.

"Autofit contents" sets the width of each column to best fit the content. This is often a good way of minimising the height of the table, particularly when the data in columns is uneven. If the data in a table is not too wide, it will make the table narrower than the printable page width. This prevents large areas of blank space in the table. In a narrow table, when typing in cells, it will resize them so the contents fits, until the table is the width of the printed page.

"Autofit window" ensures that the table is the full width of the page. If the table needs widening, it adds space keeping each column the same relative width to the other columns.

To set a table to be the width of the page and to best fit the contents, it can be worth using autofit contents, then autofit window. Press **alt**, then **j** and **l** to open the Table Layout ribbon, then **f** for autofit. Finally, press either **c** for autofit contents or **w** for autofit window.

When "Fixed column width" is set, cells will not automatically resize as more text is typed. This enables the size of cells to be precisely set. Because cells do not automatically resize, text wider than the cell will wrap to a new line even if the table is not the full width of the page. The "Column Width" and "Row height" options on the table layout ribbon can be used to set the exact width and height of columns and rows. The numbers in those fields will depend on the measurement units being used: inches, centimetres, etc. Before changing anything, the existing numbers reflect the current size of the column or row. Press **alt**, then **j** and **l** to get to the Table Layout ribbon. Next, press either **h** for cell height, **w** for cell width or **f**, then **n** for fixed column width. For most purposes, the autofit options will set out tables neatly.

Let's create a catalogue of music to practise the autofit options now:

Activity: Sizing cells

1. Create a blank document in Word.
2. Create a table with three columns and four rows.
3. Add headings along the top row for "Artist", "Album" and "Year". Set column 1, row 1 as the column header row and column 1, row 2 as the row header column.
4. Add the albums "Thriller" by "Michael Jackson" from 1982, "21" by "Adele" from 2011 and "It's Time" by "Michael Bublé" from 2005. The table takes up the full width of the page with the columns all the same width and lots of blank space.
5. Press **alt**, then **j** and **l** to move to the Table Layout ribbon.
6. Press **f** for "AutoFit" then **c** for "Contents". Now the table has shrunk to about a third of the width of the page with the "Artist" column taking up about half the width of the table.
7. Press **alt**, then **j** and **l** to move to the Table Layout ribbon again.
8. Press **f** to choose "AutoFit" then **w** to choose "Autofit Window". The table takes up the full width again, but the "Artist" column is still about half the width of the table.

9. Save the document as "music" and leave it open to return to next activity.

Bonus Activity:

Under the Music table, type a heading "Sizes". Create a table with two rows and two columns. In the first row, type the headings "column", and "Size". Use the Table layout ribbon to find the width of the three columns (artist, album and year) and add new rows with this information to the table. Change the "Size" heading to "Fit to Window size" and add a new column to the right. Add the heading "Fit to contents size". Move back to the music table and use the "Autofit" option to auto-fit the table to fit the contents. Find out the size of each column now and enter this information in the second table. Save the document.

7.10 Table Design

By default, tables have a thin black border around each cell and the table itself.

To change the appearance of borders, first, select either the whole table, or the cells to adjust. Next, press **alt**, then **j** and **t** for the table design ribbon, then **b** for border. Finally, press **n** for no borders, **a** for all borders, or down arrow through the options and press **enter** on the option to be changed. If an option is "checked", it means that border is currently displayed, so pressing **enter** on it will take away that border. Individual lines include the left or top border of the selected cells. Diagonal borders are a line through cells. While diagonal borders may indicate that a cell is not used, it is not accessible and should not be used. Moving through the sub-menu, individual borders will be identified as being "checked" if they are visible, or "unchecked" if they are not visible.

As covered previously, cells can be selected by using **shift+arrow keys**. There is a command on the "Table Layout" ribbon to select the whole table at once. Press **alt**, then **j** and **l** for the "Table Layout" ribbon, **k** for "select" then **t** for "table".

It is also possible to change the visual presentation of a table using table styles, similar to the whole document theme covered earlier. Table styles, as well as cell shading and border styles, are all available on the Table Design ribbon. Press **alt**, **j**, **t** to get to the Table Design ribbon and use **tab** to browse the options available there if desired. The "header row", "total row", etc. options indicate whether these elements are present in this table for table style purposes. Note the "header row" option on the Table Design ribbon is a visual option, not related to what NVDA reports. Some table styles display these elements differently. The "banded columns" and "banded rows" options, if selected, are used by some table styles to display alternate columns or rows in a different shade. This can make it easier for sighted users to follow a column or row visually in a large table.

Let's change the appearance of the table in the music document now:

Activity: Table design

1. Make sure the "music" document created last activity is open.

2. Move to the cell with "Thriller".
3. Press **alt**, then **j** and **l** to go to the Table layout ribbon.
4. Press **k** to open the "select" option then press **t** to select the table.
5. Press **alt, j, t** to go to the Table design ribbon.
6. Press **b** to open the "borders" split button, then **down arrow** through the options. Note which options are checked. "Bottom", "Top", "Left" and "Right" are all checked, as well as "all borders" and a number of other options.
7. Choose the "no borders" option. This removes all borders from the table.
8. Repeat steps 3 to 6. Note that there are no options checked now. This indicates that the table does not have any borders.
9. Save the "Music" document and leave it open to return to next activity.

Bonus Activity:

Move to the second table in the music file. From the table design ribbon, select the "Grid table 4, accent 1" style. Use NVDA's font formatting to read the style of the first row of the table, and the remaining rows. From Word's "Design" ribbon (not table design), change the theme of the document. Note the change in style to both the first and second row of the table, as well as to the heading above the table. On the table design ribbon, uncheck "header row" and note the difference in formatting. Save and close the document.

7.11 Table Properties

Most of the features and properties of tables are also available via the "Table properties" dialog box. From anywhere in a table, press the **applications key** to open the context menu, then press **r** to open the Table Properties dialog box.

The table properties dialog has a "tab control" with five tabs of options, titled: "Table", "Row", "Column", "Cell" and "Alt text". To navigate between tabs, press **control+tab** to move forwards, or **control+shift+tab** to move backwards. The dialog opens to the last tab which was used, or the "Table" tab.

The first tab of this dialog contains options which affect the whole table. The preferred width of the table can be used to set the exact width of the table either in the default measurement (centimetres, inches, etc.) or as a percentage of the useable page width. Alignment and text wrapping affect how the table is positioned on the page. Borders and Shading can be used to set these options manually rather than using a style. Options can be used to set the cell margins, which is how much space is left between the border and the contents of each cell. Spacing between cells puts a gap between the border of one cell and the next.

The second tab contains options which affect rows, the height of the current row and whether it is allowed to break across pages. One or more rows can be set to be repeated at the top of every page, where a table runs across more than one page. If any rows are set to be repeated at the top of every page, these will automatically be set as column headers for NVDA without needing to press **NVDA+shift+c**. Finally, there are buttons to move to the next or previous row. The current row is displayed in a read-only edit near

the top of the tab. To read this, either use NVDA's "Read active Window" command of **NVDA+b**, or navigate to the control using object navigation.

The third tab contains the options for columns, particularly the preferred width of the current column. As with rows, there are buttons to move to the next or previous column.

The fourth tab contains options for the currently selected cell or cells. These include whether text is displayed at the top, middle or bottom of the cell, and the preferred cell width. An "Options" button allows the cell margins to be set individually for this cell and also whether text is wrapped in the cell. The "Fit text" option will spread the text out to ensure it takes up the whole width of the cell. If the text is wider than the cell, it will condense it (make it narrower than normal) to make it fit. In both cases, this option can make text hard to read visually.

In the cell options tab of the table properties dialog, text in cells can be set to be aligned to the top, middle or bottom of the cell. The last tab is the "Alt text" tab, which is covered in the next topic.

Let's have a look at the table properties of the music table now:

Activity: Table properties

1. Make sure the "Music" document from the previous activity is open in Word.
2. Move the focus to any cell within the music table.
3. Press the **applications key** to open the context menu.
4. Press **r** to open the table properties dialog. If the focus does not start on the "Table" tab, press **control+tab** until Table is selected.
5. Press **tab** to move through the options on the "Table" page.
6. Press **control+tab** to move to the next page ("Row" is the second page).
7. Repeat steps 5 and 6 to explore the "Column" and "Cell" pages as well.
8. Press **escape** to close the dialog box (alternatively, press **enter** to save any deliberate changes).
9. Close Word.

Bonus Activity:

Re-open the Music document. Underneath the second table, add a heading "Default values". Add a two column table and in the left column, under a suitable heading, type "Table alignment", "Indent from left", "Allow row to break across pages", "cell vertical alignment". Use the table properties dialog to find out the default value of these options and type them in the table. Add a new column and type an explanation of each of these settings (Do a web search for something like "Word, table, what is" and then the setting name if needed). Save and close Word.

7.12 Table Alt Text

The last page in the table properties dialog is the "Alt text" page.

This page contains two edit boxes, "Title" and "Description".

If present, the "title" is announced when the focus first moves into the table. The title is also useful when navigating in Browse mode, as when pressing **t** to move between tables in a document, the title will be announced. Without this, only the size of the table and the contents of the first cell will be read when the focus moves into the table.

If there is a description, this is available by pressing the long description command, **NVDA+d**, when in browse mode. The presence of a long description is also announced when the focus moves into the table.

To add a title and description to a table, ensure the focus is in the table, open the context menu and press **r** to open the "table properties". Press **control+tab** to move to the "Alt text" page. After typing a title and description, press **enter** to save the changes and return to the document.

Let's re-open the "music" document and add a title and description to the table now:

Activity: Table alt text

1. Open the "Music" document. From the top of the document, move down into the table. Note the announcement of the size of the table.
2. Open the context menu and press **r** to open the Table Properties.
3. Press **control+tab** to move to the "alt text" tab.
4. Type "Albums" for the title and "Catalogue of music albums" for the description.
5. Press **enter** to save the changes and close the dialog box.
6. Press **control+home** to move to the top of the document, then **down arrow** into the table. Note the announcement of the title, "Albums", and that there is long description text.
7. Press **NVDA+spacebar** to go into Browse mode.
8. Press **NVDA+d** to read the long description, then press **NVDA+spacebar** to go back into focus mode.
9. Save the document and close Word.

Bonus Activity:

Re-open the music document. Add alt+text (title and description) for the remaining two tables in the document. In Focus mode, read through the document and note the title for each table. Go into Browse mode and use single letter navigation to move between the tables. Read the long description for each table. Save and close.

7.13 Tables Review

This section covered setting up, creating, editing and using tables. Some of the key concepts included:

- Creating a table

- Table navigation
 - Using **control+alt+arrows**
 - Using **tab** and **arrows**
- Setting column and row headers
- Adding columns and rows
- Deleting cells
- Merging cells
- Resizing cells
- Table borders
- Table properties
- Table alt text

Activity: Tables review

1. Open the Word journal you have been keeping.
 2. Move to the bottom and type a heading level 2 heading, "Tables".
 3. Under the heading, create a table with 2 columns and 5 rows.
 4. Merge columns 1 and 2 of row 1, type the heading "Table keystrokes" and center it.
 5. Move to column 1, row 2 and set this as the start of the column headings and the row headings.
 6. In row 2 type "key" in column 1, "description" in column 2, and populate the rest of the table with keystrokes which can be used in Tables. Be sure to include each of the following (note you will need to add extra rows):
 - How to create a table
 - Two different ways of navigating (including any special notes about each)
 - How to set column and row headings
 - How to insert and delete cells
 - How to merge cells
 - How to read table alt text
 - Feel free to add extra rows to add more
 7. Set the alt text for the table. Give it the title "Keystrokes" and the description "Useful keystrokes for working with tables".
 8. Change the style of the table. Type a paragraph underneath the table (with a heading level 3 heading before it), explaining how it was done and why you chose the style used.
 9. Save the journal and close Word.
-

8 Page Layout

The aim of this section is to cover setting out documents to fit neatly on the paper or medium they will be used on.

Goals for this section:

- Paper size
- Page margins
- Orientation
- Page numbers
- Headers and footers
- Document properties
- Columns
- Sections
- Advanced page numbers

8.1 Paper Size and Margins

If a document is intended to be printed, setting the correct paper size and margins will ensure it fits neatly on the page. Two of the most commonly used paper sizes in different parts of the world, A4 and Letter, are similar, but not the same size. Letter is 5.9mm (0.24") wider than A4 but 17.6mm (0.69") shorter. A document may be setup to fit neatly on one (or more) pages, taking advantage of the length of A4 or width of letter. If that document is printed on the other size paper, the page breaks may not be where expected.

Knowing how to set paper size also makes tasks such as printing an address on an envelope or other sized paper possible. To view or set the page size, press **alt+p** for the Layout ribbon, then **s** and **z** for size, then **arrow** through the options.

Another option on the Layout ribbon is "Margins". Most of the time, documents are not printed right to the very edge of the paper. Printing to the edge of the page is harder to read visually. Most printers also cannot print to the very edge of the larger sizes of paper. To get to Margins, press **alt+p** for the Layout ribbon, then **m** for margins, and **arrow** through the options. Larger margins can be easier to read or create a visual border effect around a page. Smaller margins ensure the maximum amount of information will fit on each page.

The Layout ribbon includes a number of predefined margin sizes. There is also a "custom" option. This opens the "Page setup" dialog, where precise margins can be set. Other options on this page include: setting up a booklet, multiple pages per sheet or whether to mirror the margins. Mirroring margins swaps the left and right margin every second page. This is useful for books which will be bound and need the inside margins larger to accommodate the binding.

The Print toolbar can be used to ascertain the current page size and margin settings. These values can be changed from this toolbar prior to printing. It is important to proofread through the document to ensure that any changes will not adversely affect the layout. Any changes made on the print toolbar will not be saved, so it is advisable to setup the document with the preferred margin and paper sizes from the Layout ribbon.

The next activity involves browsing the print settings. A printer is not required, but if one is connected, find out what kind of paper it uses as it will be useful to know when you do need to print something. Let's have a look at the current settings and options for paper sizes and margins now:

Activity: Paper size and margins

1. Open Word to a new, blank document and press **control+p** to open the Print toolbar.
2. Press **tab** to move through the options. Note the page size and margin settings before pressing **escape** to close the Print toolbar.
3. Press **alt+p** to open the Layout Ribbon.
4. Press **tab** to move to "Margins", then **enter** to open the drop down list.
5. Press **down arrow** and read through the options before pressing **escape** to close the Margins drop down list.
6. Press **tab** to move to the "Size" drop down list and press **enter** to open the drop down list.
7. Press **down arrow** to read through the page size options available and press **escape** to close the Size drop down list.
8. Press **escape** again to close the ribbon.
9. Close Word without saving any changes.

Bonus Activity:

To explore different margin sizes, first, open a blank document. To avoid having to type large amounts of text, set the font size to 30 pt. This is a very large font size. Type `=rand()` and press **enter**. Explore the document and note how many pages there are. Change the margin to "Wide" and then to "Narrow" and check the difference in the amount of text per page for each. Set the margins back to "Normal", then use the custom margin option to set the margins to double the normal size. Explore the difference in how much text fits on each page. If printed, this document would have a lot of blank space around the text. Save as "margins" and close Word.

8.2 Orientation

Most paper sizes are rectangular, longer one way than the other. A page setup to be read with the short edges top and bottom, is known as "portrait". This is common for documents such as letters and resumes. "Landscape" is where the long edges are top and bottom. This is used for envelopes and some signs and fliers.

Press **alt+p** to access the layout ribbon, then press **o** for "Orientation" and use the **arrows** to select either portrait or landscape.

When the orientation is changed, the document changes immediately. This enables checking where lines finish, and where pages break. These settings can also be saved in different templates so that documents can be created ready to use for different page setups.

Landscape is particularly useful for wide content such as tables with multiple columns. When the orientation of a page with a table is changed, the table autofit option spreads the table evenly across the new page width. Let's create a table now, add some text and change the width of the page:

Activity: Orientation

1. Open Word to a new, blank document.
2. Create a new table which is 5 columns wide and 3 rows high.
3. In the first cell, type "I ran ten laps of the track". Read each line in that cell and note how many words fit on each.
4. Press **alt+p** to open the Layout ribbon and choose orientation (press **o**).
5. Press the **down arrow** to choose "landscape" and press **enter**.
6. Open the Table layout ribbon (**alt, j, l**).
7. From the "Autofit" drop down (press **f**), choose "autofit Window" (press **w**).
8. Read the lines in the first cell now and note that more text fits on each line.
9. Close Word without saving the document.

Bonus Activity:

Open the "margins" document created in the last bonus activity. Note how many pages the document is, and how many words are on each of the first couple of lines. Change the orientation to landscape. Check how many pages the text takes up now. Because the text is in paragraphs, the number of pages may not change. Read the number of words on the first couple of lines and note that the lines are now longer. Save and close.

8.3 Adding Page Numbers

If a document is more than a couple of pages, it can be helpful to include page numbers. This can make it easier to refer to something on a particular page. Including the total number of pages can also give readers a quick idea of how long the document is.

To insert page numbers into a document, press **alt+n** to open the Insert ribbon, then press **n** and **u** to choose "page numbers". This opens a drop down list where the position of the page numbers can be chosen. Placing page numbers at the bottom of the page is one of the most commonly used layouts. Placing page numbers outside the margin on the left or right is visually striking but uses text boxes which are inaccessible. The current page number can also be inserted in the current position in the text of the document itself.

Once the position of the page numbers has been chosen, the next options are not as well described. Usually, where there are three options, such as "Plain number 1" to "Plain number 3", they are left, center and right aligned. Once the page number style to use has been selected, the focus moves to the page number on the current page of the document.

The page numbers are updated as new pages are added or when the document is printed or saved. To update page numbers manually, select the page number itself and choose "Update field" from the context menu. Page numbers can also be updated by selecting the field and pressing **f9**.

Let's create a document and add page numbers to it:

Activity: Adding page numbers

1. Open a new, blank document in Word.
2. Under the heading 1 heading "Life of dog", type the following:

Jumping up
Crouching down
Little pup
Such a clown

3. Press **control+enter** to insert a page break and then type:

older dog
fast asleep
like a log
by my seat

4. Press **alt+n** to open the Insert menu.
5. Press **n**, then **u** to choose "Page Number".
6. Press the **down arrow** to move through the options until the focus is back at the first option, then find "bottom of document" and press **enter** on it.
7. Press **down arrow** to move through these options, find the second option, "Plain number 2" and press **enter** to accept it.
8. Press **escape** to return to the document.
9. Save the document as "dog's life" and leave it open for the next activity.

Bonus Activity:

Open the "Margins" document. Move to the bottom of the document and after writing "Page Number: " insert the page number to the current position. Use the "Bold numbers" style. Read the line again to confirm the current page number. Change the page margin to "Narrow". Select the line of text with the page number in it and use the context menu to update the field. Read the line again to confirm the current number of pages in the document. Save and close.

8.4 Headers and Footers

Page numbers, such as those in the previous activity, are often used in a header or footer. Headers and footers contain information which appears on every page. Headers are at the top of the page, above any other content, and footers are at the bottom.

The header and footer option allows any text to be included at the top or bottom of every page. As well as page numbers, other information in headers and footers may include:

- Document name or title
- Document location
- Author
- Chapter title

To insert a header or footer, press **alt+n** to open the Insert Ribbon, then press **h** for header or **o** for footer.

After choosing either a header or footer, the focus is on a drop down list of options. The first option is "blank". This sets up a blank header or footer, with no extra formatting. By default, the text is left aligned. Press **tab** once to move the focus to the center and **tab** again to move to the right margin. Space permitting, text can be positioned at all three locations on the one line. Most other header and footer options are variations on colours and themes. Some options include text boxes. In general, it is best to avoid text boxes, as they are hard to access with the keyboard.

When **tab** is pressed, instead of reporting the new alignment, NVDA reads the position on the page. On an A4 page with normal margins, press **tab** once to move to the center header alignment. NVDA reports 10.5 centimetres (4.13"), which is the center of the 21 cm (8.27") wide page. Press **tab** a second time to move to the right header alignment. NVDA reports 18.5 centimetres (7.27"), which is the right margin, 2.54cm (1") from the edge of the page. The exact distances vary depending on the page size and margins. To move back from right alignment to center, or center to left alignment, press the **left arrow**. Any text typed will stay where it is. NVDA always reports header and footer text as left aligned, as this is what Word reports.

The page number in the "dog's life" document from the previous activity is a footer. Now let's add a header to appear at the top of the page with the poem title on the left and author on the right:

Activity: Headers and footers

1. Make sure the "dog's life" document from the previous activity is open in Word.
2. Press **alt+n** to open the Insert ribbon.
3. Press **h** to choose the "header" option.
4. Press **down arrow** to the "blank" option and press **enter**.
5. The focus is in the header, on the left hand side. Type the poem heading "Life of dog".
6. Press **tab** twice to move the focus to the right.
7. Type your name.
8. Press **escape**.
9. Save the "dog's life" document and close Word.

Bonus Activity:

Open the Margins document. Set the margins to wide. Add a blank header and type "Left", "Centre" and "right" in the three positions. Note the distance from the left margin announced each time **tab** is pressed. Insert a blank three column footer. This style of footer already contains "Type here" text at each point. Type the same words in the footer. To do this, press **shift+right arrow** to select the template text, then type the new

word. Finally, press **right arrow** to move to the next section of the footer and repeat. Save and close.

8.5 Viewing and Editing Headers and Footers

When a header or footer has been created, the focus moves to the new header or footer where it can be edited further. Press **down** or **up arrows** to move between headers and footers for each page. Press **escape** to return to the main part of the document.

The Insert Ribbon can be used to return to the header and footer section. Press **alt+n** for the Insert ribbon, then **h** for header or **o** for footer, then **e** for "edit". The only difference is whether the focus moves to the header or footer section. If, instead of edit, a new header or footer style is selected, then any existing header or footer is replaced.

The next activity sets up a document about the solar system. Each page will have information about one of the planets. The header will contain sentence where each word begins with the same letter as one of the planets. This is called a "mnemonic", and can be a useful way to remember something, in this case the order of the planets. The mnemonic I learnt at school still finished with "P" for Pluto. If you know a newer mnemonic for the planets which doesn't include Pluto, feel free to substitute it. Let's create a document about planets to try this now:

Activity: Viewing and editing headers and footers

1. Open Word to a new, blank document.
2. Type a level 1 heading "The solar system", then press **control+enter** to move to page 2.
3. Under the level 2 heading "Mercury", type "Mercury is closest to the sun".
4. Press **alt+n** for the Insert ribbon, then **h** for header. Press **enter** to choose the "Blank" header option.
5. Press **tab** to move to the center and Type "My Very Easy Method Just Speeds Up Naming Planets" as the header and press **escape** to close the header and return to the document.
6. Press **control+enter** to move to a new page. Under the level 2 heading "Venus", type "Venus is known as Earth's sister planet, due to their similar size and mass."
7. Press **alt+n** to open the Insert ribbon, then **h** for header, and **e** to select edit.
8. Read the current line. Note that the focus is in the header, which is the same on every page.
9. Press **escape** to close the header again, then save the document as "planets". Leave it open to return to next activity.

Bonus Activity:

Open the Margins document. Move the focus to the header without changing it. Move down through the headers and footers then return to the document. Open the Insert Ribbon and choose "footer" and insert a "blank" footer. Type "Margins document" and

return to the document. Navigate through the headers and footers again to confirm that the footer has changed to the new text. Save and close.

8.6 Header and Footer Options

While the focus is in the header and footer section, a new ribbon appears. Called the Header and Footer Design ribbon, it can be accessed by pressing **alt**, then **j**, then **h**. If **alt+j** are pressed together, then **h** may only need to be pressed if there is also a picture or table in the header. This is because pictures also have a special ribbon which uses **alt+j**. From the header and footer ribbon, press **control+right arrow** and **tab** to move through the options, as with all the other ribbons. Alternatively, press the corresponding letter(s) for the item to access.

One option available here is "Different first page" (press **a** from the ribbon). Having a different header and footer for the first page can be desirable in some cases; for instance, for a title page.

Another option is "Different Odd and Even Pages" (press **v** from the ribbon). Using different headers and footers for odd and even pages means that information such as page numbers can be printed on the outside edge when papers are bound or stapled. For English, the outside edge is the left on even pages and the right on odd pages.

When using multiple sections in a document, the headers and footers in later sections, are linked to previous sections. To unlink these, press **alt+j**, then **h**, then **k**. Sections are covered in the Advanced Document Layout part of this module.

Let's edit the headers and footers in the planets document now:

Activity: Header and footer options

1. Make sure the "Planets" document from the previous activity is open. Ensure the focus is at the start of the document.
2. Press **alt+n** to open the Insert ribbon, then **h** for header, then **e** to edit. The focus moves into the document header.
3. Press **alt**, then **j**, then **h** to open the "Header and footer design ribbon.
4. Press **tab** to move through the options.
5. Find the "Different first page" option and press **enter** to select it. The focus returns to the header for page 1 which is now blank.
6. Press **down arrow** to move to the "Header" area for page 2 and note the sentence is still there before pressing **escape** to return to the document.
7. Add a new page at the end of the document, writing a heading for "Earth" and a sentence about our own planet.
8. Move back into the heading section (repeat step 2) and note whether the new page has any text in the header.
9. Save the planets document and close Word.

Bonus Activity:

Open the margins document and move to the footer. At the end of the footer text, press **tab** twice to move to the right section. Open the header and footer design ribbon and select the "date and time" option. Select a format, and insert the date. Set the margins to be different for odd and even pages. Set the even page footer to show the date on the left and "Margins document" text on the right. Set the page margins to wide then explore the headers and footers on each page. Save and close.

8.7 Page Layout Review

This section covered some of the features available to set out the pages and structure of a document. Some of the key concepts included:

- Setting paper size
- Adjusting page margins
- Page orientation
- Adding page numbers
- Headers and footers
 - Inserting
 - Viewing and editing
 - Header and footer options

Activity: Page Layout Review

1. Open your Word Journal.
 2. Create a header which contains the text "My journal", centred.
 3. Set the footer to include the current page number and total number of pages.
 4. Set the footer to be right aligned on odd pages and left aligned on even pages.
 5. At the bottom of the main body of the document, add a heading level 2 heading "Page Layout".
 6. Add a bulleted list using the Journal bullet style, which includes how to use each of:
 - adjusting paper size
 - Difference between landscape and portrait
 - margins
 - Page orientation
 7. Insert a table with three columns. In the table include a row with the width and height of A4 size paper in portrait mode, and Letter size paper in portrait mode.
 8. Proof read and spell check the document.
 9. Save the journal and close Word.
-

9 Advanced Document Layout

The aim of this section is to cover advanced features for setting out documents. These include multiple columns, including document properties and changing layout throughout a document.

Goals for this section:

- Document properties
- Using fields
- Columns
- Sections
- Advanced page numbers

9.1 Document Properties

As well as page numbers, other information about a document or its author can be added documents, often in the header or footer. Some fields, such as date or word count, are updated automatically. Many properties are things which can be edited, such as the category, author or comments about the document.

To get to document properties, press **alt+f** for the File menu. This displays differently to the ribbons as it shows a list of text options down the left hand side of the screen with items related to the current selection on the right. If using Word 2013 or later, this is the layout used for the default Save As tab. When the file menu is first opened, the focus should be on "Info" (if it is not, press **i**). From here, press **tab** to move to "properties", then press **enter** to open the sub-menu, then **enter** again to activate "Advanced properties." This opens a dialog box where information such as Title, Subject or Keywords can be read or edited. In this dialog box, press **tab** to move between the options and **enter** when done.

Some properties are stored by Word itself rather than in individual documents. For instance, the username will change depending on the user currently logged into the computer when the document is opened.

To get to Word's properties, press **alt+f** to open the file menu, then **t** to choose "Options". From here, press **u** (or **tab**) to "Username", edit as needed, then **tab** once to initials. Press **control+tab** until the focus is on "advanced" then **tab** or press **alt+d** until the "Mailing address" field is active. The mailing address of the company can be typed into this field. Note that some organisations will restrict changing this information.

Let's create a document about a special memory and use it to look at these options now:

Activity: Setting document properties

1. Open a new, blank document in Word.
2. Press **alt+f** to open the file menu, then **i** to choose "info" (Info may already be selected).
3. Press **tab** to the "Properties" button, then press **enter** twice to open "Advanced properties".
4. The focus is in "Title". Type "My special memory", then press **tab**. The focus moves to the "Subject" field.
5. Type "My memory" for the subject, then press **tab** to move through the other properties. Type "Autobiography" for the "Category", and add three "Keywords" about your memory.

6. Press **enter** to save the document properties, then **escape** to close the file menu.
7. Type a heading level 1 heading "My favourite memory". Type a paragraph about an enjoyable memory.
8. Add page numbers to the footer of the document (press **alt+n**, then **n**, then **u**, choose "Bottom of page" and choose a style).
9. Save the document as "Memory" and leave it open to come back to next activity.

Bonus Activity:

In the Memory document, open the Properties dialog. Press NVDA+b to read the entire dialog box and note the size and creation date. Press **control+tab** to move to the "Statistics" tab and read the dialog box. Note statistics such as pages, paragraphs, lines and words. Return to the document.

9.2 Using Fields in the Header and Footer

The document and company information covered in the previous topic can be added to the header and footer. Information such as the author or company details can ensure that anyone reading the document knows who wrote it and how to contact them. The filename and time printed shows where and when the file was accessed.

These fields are automatically updated when the document is opened or printed to ensure the information is accurate.

Images, such as a company logo, can be added to the header or footer. Be sure that any images are small as they will appear on every page.

To access these options in the header or footer, press **alt**, then **j**, then **h**, then:

- **d** for date and time options
- **i** for document info, such as author, filename or path
- **p** for picture

In Word 2010, document properties are in the "Quick parts" of the Headers and footer ribbon. In Word 2010, press **alt+j**, then **h**, then **q**, then **d** to access document properties.

From "document info", some information can be accessed directly, such as author or file name. There is also a "field" option, which opens a dialog box with even more information. The field dialog is not as simple to read, but has a lot of powerful options. All of the items are named without spaces. For instance, the number of words in the document is "numwords", the last use of a particular style is "styleref", and the company address is "UserAddress". Many of these fields can be customised. Once selected from the field name list, press **tab** to move to any options for the field. For "styleref" for instance, the style to be tracked can be selected, and for "numwords" the way the number is presented can be customised.

Note that after adding one of these fields, the focus is in an edit box containing the inserted field. To move out of the field, press the **right arrow**.

Another way these document properties are useful is that they can be searched for in File Explorer (called Windows Explorer in some versions of Windows). To open File Explorer, press **windows+e**. To then use the search feature in File Explorer, press **control+f**, then type the word or phrase to search for. If the focus is already in the folder the file is in, the search will be quicker. This phrase can be in the filename or in the document properties; for instance, it may be one of the "Keywords". It can also be in the body of the text itself, although this takes longer to search for.

Let's explore and use the properties saved last activity in the "Memories" file:

Activity: Using fields

1. Open the "memory" document saved last activity in Word.
2. Create a blank header (Press **alt+n**, then **h**, then press **enter**).
3. From the header properties ribbon (Press **alt**, then **j**, then **h**), press **i** for Document Info, and choose "Document Title".
4. Press **right arrow** to ensure the focus is out of the Title edit, then press **tab** twice to move to the right alignment.
5. Type "by" then open the header properties ribbon, choose document info and this time choose "author".
6. Press **escape** to close the header, then save the document and close Word.
7. Press **windows+e** to open File Explorer. Next, press **control+f** to move to the search edit and type "autobiography".
8. Press **down arrow** to move through the options and press **enter** on the "Memory.docx" file. The document opens in Word.
9. Close Word and File Explorer.

Bonus Activity:

This bonus activity creates a report with headings for different sections on new pages. Each page includes the current heading in the header which would be useful where a heading (or chapter title) may cover multiple pages of text. Create a blank document. Type a heading 1 "Introduction", then add a page break and type "Body" as a heading 1. Add two page breaks and type "Conclusion" as a heading 1. Insert a blank header and in the heading add a field. Choose the "StyleRef" field and press **tab** to move to the "Style name" list. Select "Heading 1" then press **enter**. Move through the header and footer sections of the document and confirm the most recent heading is listed in the header. Close without saving.

9.3 Using fields in a document

As well as using document properties in the header or footer of a document, they can also be inserted within the document itself. Press **alt+n** to open the Insert menu, then **q** for "quick parts" and either choose "Document property" or "Field". When accessing these fields from within the document, they are located on the Insert ribbon, rather than

the header and footer ribbon. Otherwise, they work in exactly the same way. Document property opens a sub-menu with quick access to a list of commonly used information. "Field" opens a dialog box where you can access any field available.

A couple of field types can be added with a keystroke as well:

- **alt+shift+d** adds the current date
- **alt+shift+t** adds the current time
- **alt+shift+p** adds the current page number

The information from each field is correct at the time it is inserted. To update the field at any time, select the field or have the caret on it, and from the context menu choose "Update field". To update all of the fields in the document, press **control+a** to select the whole document, then press **f9**. Let's add some document information fields to the memory document now:

Activity: Using fields in a document

1. Open the "Memory" document from the last couple of activities.
2. Move to just after the heading (and before the text) and add a blank line.
3. Type "Category:" then leave a space.
4. Press **alt+n**, then **q** for "quick parts".
5. Choose "Document Property", then "Category".
6. Press the **right arrow** to move out of the field, then **enter** to move to a new line.
7. Repeat steps 3 to 6 but change "Category" to "keywords".
8. Read through the document and note the Category and Keyword information.
9. Save the document as we shall come back to it one more time shortly.

Bonus Activity:

In a new document, Type the heading "About this document". Use the shortcut key to insert today's date, and then the current time. Insert the following fields, with one or two words next to each to describe it: "FileName", "FileSize", "NumChars", "NumWords". Save as "Fields", update the field. Review the changes to the fields then save and close.

9.4 Editing fields

When reading a field, NVDA announces "edit", as well as the information. When a field is added to a document, it is editable so that the way the information is presented can be changed, if needed. In some cases, editing these fields in a document actually changes the information in the document properties. If the keywords field is added to the document and then the text in the inserted "edit" field is altered, the keyword properties of the document will also be changed.

Let's try that with the memory document now:

Activity: Editing fields

1. Make sure the Memory document is open in Word.
2. Move to the bottom of the text and type another paragraph about a favourite memory.
3. Move back up to the keywords field, ensuring the focus is in the "edit".
4. Edit the keywords to include the topics and feelings expressed in the new text.
5. Press **alt+f** to open the file menu and **i** for Info.
6. Press **tab** to "Properties" and press **enter** twice to open the document properties.
7. Press **tab** to move down to the "Keywords" field and note that the changes made in step 4 are now saved here.
8. Press **escape** twice to close the document properties and file menu.
9. Save the memories document and close Word.

Bonus Activity:

Open the fields document and note the current information presented in the text. At the bottom type the label "Comments:" and from the insert ribbon choose quick parts then document properties and insert the comments field. The field is blank to start with. Edit the field to read "This document has fields". Open the file menu and **tab** to the comments field. The same text is presented here. Edit the text to read "This document contains seven fields". Press **tab** to move out of the field, then **escape** to return to the document. Update all fields and re-read the document again before saving and closing.

9.5 Creating Columns

Aside from tables, everything so far has been in a single column. That is, if you start typing a line of text at the left margin, it will continue across to the right margin of the page and then wrap onto the next line.

It is possible to setup a document with multiple columns. This is commonly used when writing a newsletter, for instance. Like a newspaper, a newsletter may have multiple columns of information per page.

When multiple columns are setup in a document, Word will automatically divide the page and text will flow from the bottom of one column to the top of the next as it reaches the bottom of the first column.

To setup columns, press **alt+p** for the Layout ribbon, then **j** for columns. Next, **arrow** through the options and press **enter** on the desired column layout. As with a number of other keys used in Word, the **j** shortcut is not overly memorable. Knowing that columns is on the layout ribbon, you can press **alt+p**, then **tab** through the options to find columns.

The options for "One", "Two" or "Three" columns spread that number of columns evenly across the page. "Left" sets up the page with two columns where the left column takes

up a third of the page and the right column takes up two thirds. "Right" is the opposite of left. "More columns" provides more flexibility, allowing the number of columns as well as the exact width and spacing of each to be specified. Whether there is a line between columns can also be specified in the more columns dialog.

A "column break" can be used to jump directly to the start of the next column. Press **control+shift+enter** to create a column break and move directly to the top of the next column. Let's create a 2 column document to practise with now:

Activity: Creating columns

1. Open Word to a new, blank document.
2. Press **alt+p** to go to the Layout ribbon.
3. Press **j** for "Columns".
4. Press **down arrow** to "Two" then press **enter**. The document changes to two column mode.
5. Type "Page 1, column 1".
6. Press **control+shift+enter** to move to the next column.
7. Type "Page 1, column 2" then press **control+shift+enter** to move to the next column. The focus will move to the start of Page 2.
8. Repeat for page 2 (type "Page 2, column 1", press **control+shift+enter**, then type "Page 2, column 2").
9. Save the document as "Columns" and leave it open to return to next activity.

Bonus Activity:

Create a new blank document. Type =rand() to add text to the document. From the layout ribbon, open Columns, then choose "More columns". Set the "Left" layout to create 2 column layout with a narrow left column and wide right column. Tab to read the width of each column and spacing between the two columns. Add a line between the columns. Save as "Left Column" and close.

9.6 Reading Text in Columns.

When reading a document with multiple columns, some of the reading commands work differently. **Up** and **down** arrows, and **page up** and **page down** particularly, do not follow the flow of the text. These commands stay within the current column. Using the reading commands to read the current line or from the current point works correctly. Moving by character, word, sentence or paragraph is also fine. Moving to the start or end of the current line stays within the current column and moving to the start or end of the whole document moves the focus to those points.

Another way of interacting with text in columns is to change to "draft" view. Draft keeps text at the width of each original column, but displays everything in one column. All the usual navigation keys work as expected in Draft view. Visually, draft view does not show margins, space around the pages and some other visual features. It also refreshes quicker and may be faster on older machines. To change views, press **alt+w** for the View ribbon, then "e" for draft. To return to Print layout, press **alt+w** for the View ribbon,

then "p" for print layout. Remember, when saving a document, the current view will usually also be saved with it.

Let's read through the "columns" document in both print and draft views now. For additional practice with columns, try turning the document into an actual newsletter and type articles in place of the dummy text:

Activity: Reading text in columns

1. Make sure the "columns" document saved last activity is open in Word.
2. Press **control+home** to move to the top of the document.
3. Press **NVDA+down arrow** (laptop: **NVDA+a**) to read through the document.
4. Move back to the top of the document and press the **down arrow** to read through line by line. Note that it jumps from page 1, column 1 to page 2, column 1.
5. Press **alt+w** to open the View ribbon.
6. Press **e** to change to draft view.
7. Press **control+home** to move to the top of the document.
8. Press **down arrow** now and note that it reads through the text from each column correctly.
9. Save the document and close Word.

Bonus Activity:

Open the Left Column document. Move to the top, then use **alt+down arrow** to move paragraph by paragraph through the whole text. Press the **up arrow** to move up by line and note that it stops at the top of the second column. Press **control+left arrow** to move back through the text by word until back in the first column. Note the difference in length between the lines which will fit in each column. Close without saving.

9.7 Sections

A document can be broken up into "sections". The number of columns, margins, orientation or even paper type can be different for each section of a document. Page numbering and headers and footers can also be changed in different sections.

A new section can be started on either the current page (called continuous), the next page, or the next odd or even page. In a newsletter, for instance, the first page might start as one single column to present the newsletter title and information. The same page may change to a two column section, to include articles on page 1.

To insert a section break, press **alt+p** to access the Layout menu, then press **b** for "break". From there, press either "n" for a next page section break, "o" for continuous, "e" for next even page and "d" for next odd page. The only difference between section break types is whether a page break is inserted or not.

Let's create a document with several sections now. We shall change the page orientation and use the print dialog to confirm the orientation of each section:

Activity: Sections

1. Open Word to a new, blank document.
2. Type the heading level 1 heading "A short story", then underneath type "Chapter 1".
3. Press **control+enter** to create a page break, then type "Chapter 2".
4. Press **alt+p** to open the Layout ribbon, then press **b** for "breaks". From breaks, choose "Next page section break" (either press **n** or **down arrow** to it and press **enter**). The focus returns to the document, now on page 3, which is a new section.
5. Type "Chapter 3, the wide chapter", and press **control+enter** to create another page break. Chapters 1 and 2 are now in section 1, with chapter 3 in section 2.
6. Press **alt+p** to open the Layout Ribbon, then press **o** to go to "Orientation", select "Landscape", then press **enter** to set the chapter 3 section to landscape orientation.
7. Press **control+p** to open the Print pane, then **tab** to the Orientation and confirm that this section is set to print as landscape. Press **escape** to close the Print pane.
8. Move up to page one and again use the Print pane to check the orientation. This section should be set to print in portrait.
9. Save the document as "Story" and leave it open for the next activity.

Bonus Activity:

Open the Left Column document. Move to the start of the third paragraph and insert a column break. Move to the start of the fourth paragraph and insert a "Next page" section break. Insert a regular page break after the fourth paragraph. Set the orientation of the second section to be landscape and single column. Check through the document before saving and closing.

9.8 Advanced Page Numbering

Having covered headers and footers as well as sections, there are some more advanced page numbering options worth exploring now.

Once page numbers have been inserted, the focus moves to the page number on the current page. From here, press the **applications key** to open the context menu, then choose "Format page numbers". For page numbers within the header or footer, this option is also available via the Header and Footer design ribbon. For page numbers within the document itself, this option is available via the Insert ribbon. In both cases, choose "format page numbers", rather than inserting new page numbers.

Within this dialog box, the number format can be set, as well as whether to include the chapter number and whether to continue or restart numbering in each section.

The number format combo box has options to choose whether to use "1, 2, 3" style numbering, "A, B, C" style numbering, or several other options.

"Include chapter number" is available if a multi-level list linked to a heading style has been setup (see "Using Numbering and Styles" in the "Templates and Styles" section for more information). If this is used, each page can show both the current chapter and page number, such as "3-26" for chapter 3, page 26.

Having page numbers continue through the document is the default. Page numbers can also be set to restart at 1, or another number, at the first page of each new section.

Headers and footers, by default, are linked to the previous section. This means that as new sections are added or when headers or footers are edited, the whole document will be updated. Headers and footers will look the same across the document. From the second section onwards, the "link to previous" header and footer option can be disabled by pressing **alt+j**, then **h** and unchecking "Link to previous". From the ribbon, use **tab** to get to the "Link to previous" option. Doing this, NVDA will announce that it is a toggle button and whether it is "pressed" (linked) or not. Press **enter** to change the state of this button.

When the focus is in the header and footer section, pressing the **down arrow** moves from the header, to the footer, to the header on the next page. Pressing **up arrow** goes in the reverse order. This can enable checking the headers and footers throughout a document.

Let's add some page numbers to the story document created last activity. In some versions of Word, page numbers in headers and footers are read as "1" for every page. If the number is selected with **shift+right arrow**, the correct value is read. If you are feeling creative, type an actual short story and note how the page numbering changes as new sections (chapters) are added:

Activity: Advanced page numbering

1. Make sure the Story document from the previous activity is open in Word. Press **control+end** to move to the end of the document.
2. Press **alt+n** for the Insert ribbon, then **n** and **u** for Page numbers.
3. Choose "top of page", then "Plain number 1", which puts the current page number at the left of the page.
4. Press the **applications** key to bring up the context menu and choose "Format page numbers".
5. Press **tab** to move to the "Continue from previous section" radio button.
6. Press **down arrow** to move to "Start at". The focus moves into an edit box with the value "1", meaning it will start at 1 each section.
7. Press **enter** to accept this. NVDA will report information about the current location, and at the end it should read "1", as that is the page number on the current page (page 1 of section 2).
8. Press the **up arrow**. The focus moves through the footers and headers for each page. Pay attention for the page numbers as they are reported. Note if they are all read as "1", press **shift+right arrow** to select and read selection.
9. Save the document and close Word.

Bonus Activity:

Open the left column document. Add a heading level 1 before each paragraph. Setup a multi-level list linked to heading level 1. Name each with one or two words based on the content of the paragraph. Add page numbering using any style. Edit the page number format for both sections to include the chapter number. Read through the page headers and footers and compare with the headings in the document to confirm that each page number includes the last heading number on that page, as well as the regular page number. Save and close.

9.9 Advanced Document Layout Review

This section covered some of the more advanced features available to structure and lay out a document. Some of the key concepts included:

- Document properties
 - Adding properties for documents
 - Using fields to display document properties
 - Searching for documents in file explorer
 - Editing fields in a document
- Using columns
 - Setting up columns
 - Reading text in columns
- Working with sections
- Advanced page numbering

Activity: Advanced Document Layout Review

1. Open your Word Journal and add "Advanced Document Layout" as a heading level 2 heading at the bottom of the document.
2. Edit the document properties to include: a title, subject, author, category and keywords.
3. Edit the document header to change the static "My journal" text to the document title and the most recent heading 2.
4. Edit the footer to include the total number of words in the document.
5. Add a bulleted list using the Journal styles, which includes how to use each of:
 - Adding chapter title to the page number
 - Three features which can be customised with sections
 - How to use document properties
6. Create a table with two columns, ensuring it has column and row headings. Set the text in the left column of the table to be right aligned.
7. Down the left column of the table, type the following headings:
 - Author
 - Subject
 - Number of words
 - File Name
 - Title

- Current date and time
 - 8. In the right column of the document, add fields to automatically display the information indicated in the left column.
 - 9. Spell check the document before saving the journal and closing Word.
-

10 Document Links

The aim of this section is to cover using various types of links in documents. Several topics in this section involve internet links and the activities use the web browser. Even if you do not currently have access to the Internet, it is still possible to complete the section.

Goals for this section:

- Links
- Cross-references
- Bookmarks

10.1 Links

One of the most common elements on web pages is the "link", a piece of text which, when activated with **enter**, will open a new web page. Web links can be added to Word documents as well. When activated, these open web pages in the default browser.

On the copyright page for this module, for instance, is the address of the NV Access website. In the electronic text versions of this book, that address is a link which can be activated to open the NV Access home page in the default web browser.

One of the easiest ways to add a link to a document is simply to type it. Word recognises that web addresses start with text such as "http://" or "www.". Word converts web addresses to links once a space or punctuation such as "," or "?" is typed. An address can also be copied from a web browser and pasted into Word to create a link. In a web browser, press **alt+d** to move to the address bar. This selects the address, ready to press **control+c** to copy the link.

In NVDA's document formatting dialog, one of the options is "Links", which is checked by default. When checked, NVDA will announce "Link" as the caret moves into text which is a link. Visually, links appear blue and underlined. If the theme of the document has been changed, the colour may be different.

When the caret is on a link, press **enter** to open the link in the default web browser.

Let's try creating and activating links now:

Activity: Adding links to a document

1. Open a new document.
2. Type a "Heading 1" heading: "NVDA Links".

3. Under the heading, type "NV Access page: www.nvaccess.org". Ensure there is a space before the "www" but nowhere else in the link.
4. Press **enter**. Word turns the address into a link that can be activated to load that page in the browser.
5. Press **left arrow** to move back until the focus moves into the link. NVDA reports "Link: g" (the whole address is a link, but it is informing you the caret is on the letter "g" at the end).
6. Press **enter**. The NV Access home page loads in the default browser (If there is no Internet connection, the browser will still open with a message that it cannot connect).
7. Press **alt+f4** to close the browser.
8. Save the document as "Links" and leave it open to return to next activity.

Bonus Activity:

Create a new blank document. Type the heading social media sites. Underneath type "Facebook:" and follow it with the web address for Facebook, which is www.facebook.com. Type a line for Twitter (www.twitter.com) and one for Instagram (www.instagram.com). Activate the link for Twitter and then the link for Facebook. Close the web pages and the social media document without saving.

10.2 Navigating to links

Using NVDA's browse mode, it is possible to navigate to, and activate, links in a Word document. Press **NVDA+spacebar** to go into Browse mode. Press **k** to move the focus to the next link or **shift+k** for the previous link. Just as on a web page, this does not activate the links. With the focus on a link, press **enter** to activate it. Press **NVDA+spacebar** to go back to focus mode to edit the document again.

In Browse mode, the elements list dialog can also be used to navigate to links. Press **NVDA+f7** to open the elements list dialog, then use the **arrow keys** to navigate to links and **enter** to launch them in the default browser.

Let's use Browse mode to activate links in the document created last activity:

Activity: Navigating to links

1. Make sure the "links" document saved last activity is open. Press **control+home** to move the focus to the start of the document.
2. Press **NVDA+spacebar** to go into Browse mode.
3. Press **k** to move to the first link. NVDA reads "Link" followed by the address.
4. Press **enter** to activate the link and load the NV Access page in the web browser. If there is no internet connection, the browser will load with a message that it cannot connect, in which case, skip to step 6 (the URL will be different, but the process is the same).
5. Navigate to the "Shop" link and activate it.
6. Press **alt+d** to move to the address bar, then press **control+c** to copy the address to the clipboard.

7. Press **alt+tab** to move the focus back to the document in Word.
8. On a new line at the bottom of the document, type "NV Access shop:" with a space following. Press **control+v** to paste the link, then press **enter** to have Word convert it to a link which can be activated.
9. Go into Browse mode and press **NVDA+f7** to open the elements list. Explore the listed links, then press **escape** to close. Save the document and close Word.

Bonus Activity:

Create a new document. Type the heading: "My hobby". Type a paragraph about a favourite hobby. Open the browser and search for information about your hobby. Copy the links for three pages into the document and type a line about each. Use the elements list dialog to return to the second link. Save the document as Hobby and close Word.

10.3 Editing links

A link in a document can be edited, either to change the address it points to, or the text that is displayed. In the previous activity, instead of displaying the full address: <http://www.nvaccess.org/shop/>, the link could instead display the text "NV Access Shop". This would make it easier to read, particularly where the link is presented in the middle of a sentence. It is also important to make the text for a link meaningful on its own, such as in the elements list dialog.

For a basic link where the text is the address, to change the page the link points to, simply edit the link itself. It will update automatically when the focus moves out of the link.

To change the text displayed for a link, move the caret to it and press **control+k**. This opens the "Edit Hyperlink" dialog. If the caret is not on a link, it will bring up the "Insert Hyperlink" dialog to insert a new link. The two dialogs are the same to navigate. This dialog can also be accessed via the Insert ribbon (choose "links" then "hyperlink") or by moving to a link and using the context menu.

Once the dialog box is open, the focus is in the address edit. To change the address, re-type or paste the new address here. In some versions of Word, this particular dialog box can behave unexpectedly navigating using **tab**. The most reliable way to use the dialog is to first press **alt+t** to move directly to the "Text to display" edit. Next, edit or type the new text to display. Finally, press **enter** to save the changes.

The address in the "links" document for the NV Access shop is <http://www.nvaccess.org/shop/>. The address for NVDA's "Get help" page (with links to the user guide, e-mail lists and training and support) is very similar. The help page has "get-help/" at the end instead of "shop/". Let's edit the link's address and text to change it to point to the Get help page now:

Activity: Editing links

1. Make sure the "Links" document is open.
2. Navigate to the link (do not activate it!) for the NV Access shop.
3. Press **control+k** to open the "Edit Hyperlink" dialog.
4. The focus starts in the address. Navigate to the end (press **end**) and change "shop/" to "get-help/" (note the hyphen "-" between the words and the slash "/" at the end).
5. Press **alt+t** to move to the "Text to display" edit box.
6. Type "NVDA Help".
7. Press **enter** to save the changes and return to the document.
8. Read through the text and note NVDA identify the link when it reads it.
9. Save the document and close Word.

Bonus Activity:

Open the hobby document. Locate and add two more links related to the hobby. Edit the "text to display" for all of the links in the document to show the name of the website or page. The plain text name is easier to read in a paragraph of text. Be aware that if printing the document the "text to display" is printed so the URL may not be included. Proof read and spell check the document, then save the document and close Word.

10.4 Adding Bookmarks

Bookmarks are a way of setting a place in a document to return to later. Each bookmark has a name, so documents can have numerous bookmarks.

To insert a bookmark, locate the place in the text to place a bookmark and press **alt+n** to open the Insert Ribbon, then **k** for "Bookmark". Next, type the name to give the bookmark and press **enter** to save it. The name must begin with a letter and may contain only letters, numbers and the underscore "_". The underscore is often substituted for spaces, as spaces cannot be used in bookmark names.

If there is no text selected when the bookmark is created, it may or may not move if nearby text is moved. Selecting any amount of text before creating the bookmark will ensure it stays with a particular block of text.

Bookmarks are saved in the document itself, so if the file is distributed to others, they will be able to jump to any bookmarks already created.

Let's create a new document now and add a bookmark to it to come back to:

Activity: Adding bookmarks

1. Open Word to a new, blank document.
2. Type the following lines:

Little seed, newly sown.

Drink and feed, 'til you're grown.

Old oak tree, on the hill.
By the sea, growing still.

3. Select the word "seed" on the first line.
4. Press **alt+n** to open the "Insert" ribbon.
5. Press **control+k** to activate the "Bookmark" button.
6. Type the word "seed". This will be the name of the bookmark (it does not have to be the current word; it can be anything).
7. Press **enter** to activate the "Add" button which saves the bookmark and closes the dialog.
8. Read through the document, note that there is nothing different about the word "seed".
9. Save the document as "tree" and leave Word open to use again next activity.

Bonus Activity:

In the tree document, add bookmarks to the words "oak", "feed" and "grown". Save the document.

10.5 Moving to a bookmark using Go To

Previously, Go To has been used to navigate to a specific page. It is also able to jump to many different parts of a document. Some of the other elements Go To can navigate to include: sections, lines, bookmarks, footnotes, tables and headings.

When **control+g** is pressed, the focus is in the edit box to type a value. Press **shift+tab** to move to the "Go to what" list, to select the type of element to jump to. This stays on the last element type chosen, until Word is closed. If the dialog is used to go to a bookmark, the next time **control+g** is pressed, the dialog will still be set to look for a specific bookmark.

The Go to dialog also changes the behaviour of **control+page up** and **control+page down**. By default, these commands move to the start of the previous or next page. That is because the default option of the Go to dialog is to go to page. When the Go to dialog has been set to go to another element, **control+page up** moves to the previous occurrence of that element. Similarly, **control+page down** moves to the next time that element is used. If multiple documents are open at once, these commands jump to the next or previous occurrence of the last element Go-To was used for, in any open instance of Word.

Searching for most element types is the same as for the default page number. Type a number to go to that element, or type "+" or "-" and a number to move relative to the current location in the document.

When searching for bookmarks, type the name of the bookmark to move to. Alternatively, in the initial edit field (now called "Enter bookmark name"), press **down arrow** to choose the bookmark from a list. When bookmark is selected from the "go to what" list, the first bookmark in the document is automatically selected.

When using Tables in a document, NVDA can set row and column headers to announce when navigating. These are saved in the document as bookmarks which will appear in the "Go-To" list when searching for bookmarks.

Let's use the Go To dialog to move to the bookmark saved in the document last activity:

Activity: Moving to a bookmark using Go To

1. Make sure the "tree" document is open and press **control+home** to move to the start of the document.
2. Press **control+g** to open the Go To dialog. The focus starts in the "Go to page" edit.
3. Press **shift+tab** to move the focus to the "Go to what" list.
4. Press **down arrow** until the focus is on "Bookmark".
5. Press **tab** to move back to the edit box, which is now called "Enter bookmark name". The first bookmark will automatically be suggested.
6. Be sure the "Seed" bookmark is selected, then press **enter** to go to this bookmark. The caret in the document moves to the word "seed", which is now selected, however, the dialog is still open.
7. Press **escape** to close the Go To dialog.
8. Read the currently selected text **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**) and then the whole current line to confirm where the selection is.
9. Close Word without saving changes.

Bonus Activity:

Open the tree document. Use Go-to and navigate to the "seed" bookmark. Press **control+page down** to move through the remaining bookmarks. Select the first two lines, and move them to below the rest of the text. Navigate through the bookmarks and note that the focus moves to the same words. Close without saving.

10.6 Document Links Review

This section covered using links to both web pages and bookmarks in the current document. Some of the key concepts included:

- Links
 - Typing web page addresses
 - Copying the address of a web page
 - Activating links in a document
 - Editing links.
- Bookmarks
 - Adding bookmarks
 - Navigating to bookmarks
 - Changes to the behaviour of Go-To

Activity: Document Links Review

1. Open your Word Journal.
 2. Move to the bottom of the document and add a heading level 2 "Document links".
 3. Type a line introducing links and then a numbered list including the different ways of inserting a link to a web page.
 4. Type a paragraph explaining how to use browse mode, single letter navigation and the elements list to locate links in a document.
 5. Add links to the NV Access home page, and one to an unrelated favourite page.
 6. Edit the links to display the title of the page as text.
 7. Attach bookmarks to each of the section headings in the document.
 8. Go-To the bookmark for the tables section, then the bookmark for the Proofreading section. Use the keystroke to move to each subsequent bookmark until the focus returns to the "Document Links" bookmark.
 9. Spell check the document before saving the journal and closing Word.
-

11 References

The aim of this section is to cover several common types of references used in documents. Footnotes, endnotes and tables of contents are very useful and used in many different types of documents.

Goals for this section:

- Footnotes
- Endnotes
- Table of contents
- Captions
- Cross-references

11.1 Footnotes

Footnotes allow extra information to be added about a point to the bottom of the page. This might be a description, a link, or a source reference for a quote. A superscript (smaller and raised) number appears in the text to indicate that there is more information. To add a footnote to a document, press **control+alt+f**. The focus moves to an area at the bottom of the page where the extra information can be typed. NVDA calls this the "footnotes frame", however nothing is reported when **control+alt+f** is pressed, even though the focus moves.

To return to the original point in the document, open the context menu and press **g** to "go to footnote" to go to the position in the document where the footnote marker is.

From within a document, to move to the footnote frame, without creating a new note, press **alt+s** to open the References ribbon, then press **h** for "show notes". This can also be used to move from the footnote frame back to the document area.

Let's create a document to store quotes from people, and to practise using footnotes:

Activity: Footnotes

1. Open Word to a new, blank document.
2. Type "To be, or not to be".
3. Press **control+alt+f** to insert a footnote. The focus moves to the footnote frame at the bottom of the document.
4. Type "Willian Shakespeare".
5. Press the **applications key** to open the context menu and press **g** to choose "Go to footnote". The focus moves back to the footnote marker in the document.
6. To try the alternate method, press **alt+s** to open the "References" ribbon, then **h** to choose "Show footnote". The focus moves back to the footnote frame.
7. Move back to the document, then press the **right arrow** to move past the footnote marker.
8. Press **numpad 1** (laptop: **NVDA+left arrow**) to read the previous character. Depending on NVDA's document formatting settings, NVDA reads some, or all of: "Footnote 1, style footnote reference, superscript".
9. Save the document as "quotes" and leave Word open to use next Activity.

Bonus Activity:

Add two more quotes to the document. Either famous quotes you know, something you or a friend has said, or make them up. Add footnotes to attribute the person who said each quote. Move back to the top of the document. Use Say All to read the entire document. Move back to the top of the document. Use the **down arrow** to read the whole document one line at a time until the caret cannot move any further.

11.2 Endnotes

Endnotes are very similar to footnotes. Where footnotes are written at the bottom of the current page, endnotes are written at the very end of the document. Endnotes appear just after the last text, rather than at the very bottom of the page. Because of this, in a document with both endnotes and footnotes on the last page, the endnotes will appear before the footnotes on that page.

To add an endnote, press **control+alt+d**. The other keys covered last topic all work for endnotes as well. Press **applications key**, then **g** to go back to the document from the endnote frame. Press **alt+s**, then **h** to move between the document and the endnote frame. If a document has both footnotes and endnotes, then this command will ask whether to move to the footnotes or endnotes.

Using the quotes document from the previous activity, let's make web links endnotes so they are all together in one place. In some cases, a website may not be known for a particular reference, so a footnote will be used there. While references are a common use of endnotes, internet access is not required to create footnotes or endnotes. If access to the Internet is not available for this activity, type the name a relevant website might have. Let's add some more text and endnotes in the quotes document now:

Activity: Endnotes

1. Make sure the "quotes" document is open.
2. Press **control+end** to move to the end of the document.
3. On a new line, type the quote "Home of the free NVDA screen reader".
4. Press **control+alt+d** to create an endnote.
5. Type the address of the NV Access website in the endnote:

www.nvaccess.org

6. Open the context menu, then press **g** to return to the document.
7. Press **right arrow** to move past the endnote marker.
8. On a new line, type the quote "Don't worry, be happy".
9. Find a reference link on the Internet. Copy the link then come back to Word and paste it in an endnote (Press **control+alt+d** to create an endnote).
10. Save the document as "quotes" and leave Word open.

Bonus Activity:

Move to the top of the "Quotes" document. Use the **down arrow** to move through the document, footnotes and endnotes line by line. Locate the NV Access link in the endnotes and activate it. Close the browser and return to the document. Another quote with a footnote, and one more with an endnote. Read through the document again, then save it and leave it open.

11.3 Advanced footnotes and endnotes

It is possible to convert footnotes to endnotes, or endnotes to footnotes. To convert a footnote to an endnote, move to the footnote to be converted, open the context menu and press **v** for "Convert to endnote". The process is exactly the same for converting endnotes to footnotes; the context menu item in that case is called "Convert to footnote". The focus will stay in the footnote or endnote frame it was in, it doesn't follow the note, unless it was the only note of its type.

There are some options to change the behaviour of footnotes and endnotes. Press **alt+s**, then **q** to open the footnote and endnote dialog box. If the focus is in the main text of the document when the dialog opens, it allows you to specify whether to change the properties of footnotes or endnotes. If the focus is in the footnote or endnote frame, only the properties for that kind of note can be edited.

From this dialog box, a number of options can be selected, including:

- Whether footnotes appear at the bottom of the page, or directly after the last text on the page
- Whether endnotes appear at the very end of the document, or at the end of each section
- Convert all footnotes to endnotes, all endnotes to footnotes, or swap both
- The number style and formatting

Changes made in the dialog box can be applied to the whole document, or only the current section.

Footnotes and endnotes are separated from the regular text in the document, however, they are not completely isolated like headers and footers are.

Some navigation keys ignore footnotes and endnotes, and some treat them as if they were regular text at the bottom of the page.

Using **down arrow** to move through a document, after the last text on any page (or any column), the focus will move to any footnotes on that page before moving to the next page. At the end of the document, **down arrow** will move to any endnotes. The **up arrow**, **page up** and **page down** keys also navigate through footnotes and endnotes like regular text. All the other navigation keys ignore footnotes and endnotes.

Let's have another look at the footnotes and endnotes in the quotes document now:

Activity: Advanced footnotes and endnotes

1. Make sure the "quotes" document is open.
2. Move to the top of the document, then press the **down arrow** to move through line by line. Note that after the regular text, the caret moves through the end notes, then the footnotes.
3. Move back into the body of the document and press **alt+s** to open the References ribbon, then **q** to open the Footnotes and Endnotes dialog.
4. Press **down arrow** to select endnotes.
5. Press **tab** to move through the options until the focus gets to "Number format".
6. Press **down arrow** to change the style to "A, B, C, ...".
7. Press **tab** to move to the apply button and press **enter** to accept the changes.
8. Move back to the top of the document and press the **down arrow** key to read through all the text and the footnotes and endnotes too.
9. Save the quotes document and close Word.

Bonus Activity:

Open the Left Column document. Read through the text. Each paragraph refers to a feature of word. Read each paragraph then find the Ribbon which relates to that feature. Add a footnote at the end of each paragraph and in the footnote record which ribbon relates best to the paragraph. Open the footnotes and endnotes dialog and set footnote

numbering to restart each section. Read through the footnotes before saving and closing.

11.4 Creating a Table of Contents

A Table of Contents is a list at the start of a document, indicating the main parts of the document and which page each is on. This module has a table of contents at the start, which makes it easy to read what is covered, and where each topic is. Each line in the table of contents is also a link to that part of the document, making it easy to navigate electronically.

Word has a feature to generate a table of contents automatically in a document. To do this, Word uses the heading styles. By default, it includes Heading 1, Heading 2 and Heading 3. It is possible to customise this to show more or fewer levels, or using different styles altogether.

To create a table of contents, open the References ribbon (Press **alt+s**) then press **t** for Table of contents. Finally, press **down arrow** to choose the desired style, and **enter** to insert the table of contents to the document at the current position.

Heading 2 style headings will be indented in the table to indicate them as "sub-headings" compared to Heading 1 style. Heading 3 style headings will be indented further. NVDA will report this indentation while navigating, if the Document formatting option "paragraph indentation" is checked.

The next activity is based around an academic report. Such a report may include an overview, body and conclusion. The body contains a hypothesis and method. Let's create a document with all these headings and a table of contents:

Activity: Creating a table of contents

1. In a blank document, add Heading 1's for "Overview", "Body", and "Conclusion". Press **control+enter** after each to move to a new page.
2. Move back up to the "Body" heading, and leave a couple of blank lines underneath.
3. Type "Hypothesis" as a heading 2 style, leave a couple of blank lines, then type "Method", also as a heading 2.
4. Press **control+home** to move to the very start of the document and press **enter** twice to add space before the "Overview" heading.
5. Move back to the top of the document, then press **alt+s** to open the References ribbon.
6. Press **t** to choose "Table of contents".
7. Press **down arrow** to move to the "Automatic Table 2" style Table of Contents and press **enter** to choose this. The table of contents is created automatically and the focus moves to the line after the table of contents in the document.
8. Press **control+home** to move back to the top of the document and read through the table of contents.
9. Save the document as "Report" and leave it open to return to.

Bonus Activity:

Open a blank document. Using "Title" style, type "Transportation". Type "Ground", "Sea" and "Air" as heading level 1's, with a page break after each. On the "Ground" page, type heading level 2's for "Car", "Bus", and "Train" with two blank lines between each. On the "Sea" page, type . On the correct pages, type heading level 2's for different types of transport. Leave two blank lines between each heading. Include "Train", "Helicopter", "Bus", "Ferry" "Car", "Plane" and "canoe". On the first page, add a table of contents using one of the automatic styles. Proof-read the document then save as "Transport" and close.

11.5 Updating Table of contents

When editing an existing document, the pages that topics start on may change. Headings may also be added, removed or re-ordered after creating the table of contents.

It is a good idea to update the table of contents before saving, sharing or printing a document to ensure this information is up to date. Locate the table of contents in the document, open the context menu and press **u** to "Update field". Alternatively, with the caret on the table of contents, press **f9** to update the field. A dialog will often open asking whether to update the page numbers only, or update the entire table. Updating page numbers only checks the current page number of the items already in the table. Updating the entire table will ensure that it is accurate. This may be slightly slower with larger documents on older computers.

Let's add a foreword and appendices to our academic report now:

Activity: Updating table of contents

1. Make sure the Report document is open from the previous activity.
2. Navigate to just before the "Overview" heading and add a new Heading 1 style heading: "Foreword".
3. Include a page break between the Foreword and the Overview.
4. Navigate to the end of the document and add a page break, and another heading 1 style heading: "Appendices".
5. Navigate to somewhere in the table of contents.
6. Press the **applications key** to open the context menu, then press **u** to "Update field".
7. If Prompted, press **down arrow** to move to the "Update entire table" radio button and press **enter** to update the table.
8. Move back to the start of the table of contents and read it to confirm the changes.
9. Save the "Report" document and leave it open to use again next activity.

Bonus Activity:

Open the Transport document. Add an extra page break between each heading. Update the table of contents page numbers only. Add a heading 1 to one of the blank pages with "Space". Under this heading, add two heading level 2's for "Shuttle" and "Rocket", leaving two lines between each. Update the table of contents to reflect the latest changes. Save the transport document and close word.

11.6 Customising the table of contents

By default, the standard table of contents uses built-in heading levels to gather its data, and shows three levels of headings. It is possible to customise the table of contents to change these and other properties. To do this, press **alt+s** to open the References ribbon, then press **t** for Table of Contents. In Word 2010, press **i** for "Insert table of contents". In later versions of Word, press **c** for "Custom table of contents". A number of options here refer to "Table of contents" as simply TOC.

In the Table of contents edit box, there are a number of settings.

The Options button has options to specify the styles to use for each TOC level. Multiple styles can be used at each level, and any style can be selected.

The Print and Web preview show visually how the TOC will appear. By default, in print the TOC will have page numbers, whereas if saved as a webpage, numbers will be hidden and the items in the TOC will be underlined links.

Right aligned page numbers all appear neatly in a column at the right of the page, otherwise they appear directly after each heading. In both cases, the headings in the TOC are all left aligned. Tab leader is the mark that appears between the heading and the page number when the page number is right aligned. Having a Tab leader makes it easy to see visually which page number on the right corresponds to which heading on the left.

Formats is similar to themes for the TOC and changes the way the TOC appears visually. Some "Formats" underline different heading levels or make text all caps. Some change the alignment or font used. If "from template" is selected in formats, a "Modify" button becomes available where the exact fonts and formats can be customised.

Show levels allows more or fewer levels to be chosen. The default is three levels (heading 1 to heading 3), however, this can be set to anywhere from 1 to 9.

Let's customise the table of contents in the report now:

Activity: Customising the table of contents

1. Make sure the "Report" document is open.
2. Navigate to somewhere within the table of contents and note the formatting used with **NVDA+f**.
3. Press **alt+s** to open the References ribbon.
4. Press **t** for "table of contents", then **c** for "Custom table of contents". The table of contents dialog box appears.

5. Press **tab** to move through the options to the "Formats" combo box and select "Distinctive" from the drop down list.
6. Press **tab** to move to the show levels edit box and change the value to 1.
7. Press **enter** to accept the changes, and when prompted to replace this table of contents, press **enter** again.
8. Check the formatting again to see what has changed and read through the table of contents to note that only the heading 1 headings are listed now.
9. Save the "Report" document and close Word.

Bonus Activity:

Open the transport document. Customise the table of contents to show only one level and to use the "Distinctive" format. Read through the table of contents and have NVDA report the formatting. Customise to show two levels, and to use the "Fancy" format. Read through the table of contents and have NVDA report the formatting again and note the difference. Save and close Word.

11.7 Captions

A caption in Word is a line of text describing a table or image. Captions are numbered to make them easy to refer to .

Move the focus to a table or image, then press **alt+s**, then **p** to open the "Caption" dialog from the References ribbon. The focus starts in the "Caption" field where the text to include can be written. Type any text to include to identify the item. Using **tab** to move through the dialog, the other items are:

The "Label" drop down list. Label options are "Equation", "Figure" or "Table". This text, along with a sequential number (1, then 2, etc.) are included before the caption. The label and number are included in the caption edit box, but cannot be edited there. When writing the caption, start with a space to ensure there is a gap between the label and the caption.

A "Position" dropdown, which can either be above or below the item.

A checkbox to "Exclude the label from caption".

"New Label", a button to type alternate text instead of "Figure", "Equation" or "Table".

A "Delete label" button which is only enabled if the current label is a new Label.

"Numbering", a button to select the numbering style and whether to include the chapter number.

"AutoCaption", a button to select objects which will automatically be captioned without needing to use this dialog again.

Once created, captions are inserted in the "Caption" style. By default on Office 365, this is Calibri, 9pt, dark-pale aqua-blue and italic.

A table of figures can be used to list the captions in the text. Usually inserted at the end of the document, A table of figures is similar to a table of contents. Press **enter** on any entry in the table of figures to move to that caption. Note that the caret may need to be inside the link, rather than just before it, at the start of the line. To insert a table of figures, press **alt+s**, then **g**. The options are almost the same as for a table of contents.

Let's add a caption to a table now:

Activity: Captions

1. In a blank document, type a heading level 1 "Sales figures".
2. Press **alt+n** then **t** and insert a table with two rows and two columns.
3. Press **alt+s**, then **p** to open the Caption dialog.
4. Type a space, then "July Sales".
5. Press **tab** to move to the "Label" drop down and use the **arrow keys** to select "Table" as the label type.
6. Press **tab** to move to "Position" and use the **arrow keys** to select "Below selected item".
7. Press **tab** to move through the options in the dialog box until the focus is on the "OK" button.
8. Press **enter** to add the caption to the table and **enter** again to leave a line below the caption.
9. Read through the document, then save it as "Sales". Leave it open to return to next activity.

Bonus Activity:

Leave a blank line, then insert another 2x2 table. Caption this table "August sales". Leave a blank line at the bottom of the document. Press **alt+s** then **g** to insert a table of figures. Press **tab** to move through the options and press **enter** on the OK button. Activate the link in the table to move to the caption for table 1. Save the sales document.

11.8 Cross-references

Cross-references are a type of link that points to somewhere within a document. Cross references also provide a useful text reference to data which may change, such as table captions.

To add a cross-reference, press **alt+s** to open the Referencing ribbon, then **r** and **f** to choose cross-reference. This opens the cross-reference dialog. The focus starts in the "Reference type" drop down list. Press the **arrow keys** to select a type of item to add a cross-reference to. Reference types are: Numbered item, heading, bookmark, footnote, endnote, equation, figure or table. After selecting a type, press **tab** to move to the "insert reference to" combo box. This selects what the inserted reference will display. Options in this combo box vary depending on the type chosen, but include the page number or text of the cross reference. Press **tab** again to move to "Insert as hyperlink". By default, this is checked, meaning that the inserted text will be a link to another part of the document. If this is unchecked, a field will be inserted with the text of the cross

reference which will not be a link. The inserted text is the same, the only difference is whether it can be activated. Press **tab** one more time to move to the "For which..." list which has a list of all elements of the selected type. Use the **arrow keys** to select the element to create a cross reference to. Finally, press **enter** to add a cross reference to the selected element into the document. The focus stays in the cross-reference dialog. Press **escape** to close this dialog.

To open cross-references created as links, navigate to the cross-reference, then press **enter** to activate the link.

Cross-references are updated when the document is printed or saved. To update cross-references manually, move the focus to the cross-reference and choose "Update field" from the context menu. To update a table of figures is the same, move focus to it, then select "Update field" from the context menu. Either cross-references or the table of figures can also be updated with **f9**.

Let's add cross-references to the Sales document now:

Activity: Cross-references

1. Ensure the "Sales" document is open, and move to the bottom of the document.
2. Leave a blank line before writing "Sales figures for July can be found in".
3. Press **alt+s** to open the References ribbon.
4. Press **r**, then **f** to open the Cross-references dialog.
5. Press **down arrow** to "Table", then press **tab** to move through the other fields in this dialog until the focus is on the "Insert" button.
6. Press **enter** to insert the field, then **escape** to close the dialog.
7. Move to the inserted cross-reference and press **enter** to activate it. Note where the focus moves to.
8. Save the "Sales" document and close Word.

Bonus Activity:

Reopen the sales document. Add another table before the July table. Caption the new table "June sales". Read the line with the cross-reference. Use the context menu to update the cross-reference field. Activate the link, and note where the focus moves to. Add another line at the bottom of the document with a cross-reference to another table. Select the table of figures, then move it to the bottom of the file. Update the table of figures. Activate one of the links in the table of figures to move to another part of the text. Finally, save the document and close Word.

11.9 References Review

This section covered features which link to or refer to other parts of a document. Some of the key concepts included:

- Footnotes

- Endnotes
- Converting footnote / endnote type
- Tables of contents
 - Creating
 - Updating
 - Customising
- Using captions on tables
- Cross-references and tables of figures

Activity: References Review

1. Open the Word Journal, and at the bottom, add "References" as a heading level 2.
 2. Under the Level 1 heading at the top of the document, add a table of contents with a suitable heading level 2.
 3. Locate and add a caption to each table in the document.
 4. Under the references heading created in step 1, type a paragraph on how to insert tables of contents. Type a second paragraph on the differences between footnotes and endnotes.
 5. Add a line indicating that there are several Word specific features in NVDA. Reference this with a footnote linking to the appropriate section in the NVDA User Guide.
 6. Under a suitable heading level 3, add a line describing each table in the document, including a cross-reference to each.
 7. Under another heading level 3, add a table of figures listing the captions for each table.
 8. Type a line explaining how to update fields, and then update the table of contents in the journal.
 9. Spell check the document before saving the journal and closing Word.
-

12 Academic References

The aim of this section is to cover references which are particularly suited to academic and other specialised uses.

Goals for this section:

- Citations
- Bibliography
- Word Indexes
- Table of Authorities

12.1 Using Citations

Citations are a way of officially crediting references such as books, journals, films, even websites, used in work. Adding citations includes a block of text in the document with usually either the author or a numerical reference. To add a citation to a new source

which has not been referenced previously, press **alt+s** to open the references menu, then **c** for citation, followed by **s** for new source. Once a source has been added, further references to it can be added. Press **alt+s**, then **c** to open "Insert Citation" on the References ribbon. Next, use the **down arrow** to select it from the list of the sources used in the current document, and press **enter**.

Once a citation has been created, it can be edited to include specific page numbers, or change what is displayed. With the focus on the citation, open the context menu and select "Edit Citation". To edit the source itself, select "Edit Source" from the context menu.

The next topic covers adding a bibliography to collate all the citations used in the document, and also choosing a formatting style. For now, let's practise adding a citation to a document:

Activity: Using Citations

1. Open a new, blank document.
2. Under the Heading 1 style heading, "Favourite book characters", type the first character: "Tom Sawyer".
3. Press **alt+s** to open the References ribbon, then **c** for the Citation sub-menu.
4. Press **s** to add a new source. The focus starts in "Type of source", which should be "Book". If it is not, press **down arrow** to select it.
5. Press **tab** to move to the "Author" field, and type "Mark Twain".
6. Press **tab** to move to the "Title" field, and type "The adventures of Tom Sawyer".
7. Press **enter** to close the dialog box and return to the document.
8. Read through the document and note the way the annotation is written.
9. Save the document as "books" and leave it open to return to.

Bonus Activity:

Add two more characters with citations. Change the "Type of source" field, and then explore the other fields available in the dialog. Change "Type of source" back to book. Edit the Tom Sawyer citation to add a page number (choose any number), and to include the year, 1876. Save the document and leave it open.

12.2 Adding a bibliography

A bibliography is traditionally inserted at the end of a document. The bibliography is created from citations in the text, in the same way that a table of contents is created from headings. To insert a bibliography, press **alt+s**, then **b** for bibliography, then **down arrow** and select the style. The main difference between the options here is whether the heading for it is "Bibliography", "References", "Works Cited" or no title.

Let's add some more entries in our document and add a bibliography:

Activity: Adding a bibliography

1. Make sure the "Books" document is open.
2. Add another line at the bottom of the document for the character "Scarecrow".
3. Press **alt+s** to open the References ribbon, press **c** to choose "Insert Citation" and **s** to add a new source.
4. Add details for the book titled "Ice Station" by author "Mathew Reilly".
5. Press **enter** twice to leave a blank line. Press **alt+s** to open the References ribbon again and press **b** to choose "Bibliography".
6. Use the **down arrow** to investigate the options. Choose the "Bibliography" option and press **enter** to add it to the document.
7. Read through the document and read the characters in the list as well as the bibliography.
8. Save the "Books" document and leave it open for next activity.

Bonus Activity:

Create a new document. Type "Web sites" as a heading 1. Type "NV Access". Add a citation to a "Web site" and include the address for the NV Access site in the URL field. Choose two more sites and add them to the document with citations. Create a bibliography. Read through the text and save as "Web links". Press **alt+tab** to leave the file open and move back to the "Books" document.

12.3 Updating the bibliography

The style and formatting of annotations in the text, as well as the bibliography, is dictated by the referencing style used. Many commonly used styles are available, including: APA, Chicago, Harvard - Anglia, IEEE, ISO 690, and others. These are primarily used in tertiary education and publishing, and most people do not need to know the differences between them. Unless instructed to use a different style, there is no harm in staying with the default.

Similar to the table of contents, if more information is added to a document, updating the bibliography ensures the references are still correct and up to date. Updating the bibliography is also very similar to updating the table of contents: First, move the focus into the bibliography. Next, either press **f9**, or open the context menu and choose "Update field".

The bibliography field needs to be updated when new references are added to a document. If the reference style is changed, the bibliography and all annotations are updated automatically.

Let's edit the "books" document and update it now:

Activity: Updating the bibliography

1. Make sure the "Books" document is open.
2. Move to the list of characters and add a new entry for "Huck Finn".
3. Open the "References" ribbon and choose "Citation".

4. Press the **down arrow** and choose "Tom Sawyer by Mark Twain" as this character is also from that book.
5. From the "References" ribbon, press **l** to choose "Style".
6. Press **down arrow** to choose "IEEE" and press **enter**.
7. Read through the document and note that the annotations and bibliography have been updated, and that there is only one reference in the bibliography for "Tom Sawyer".
8. Save the document and close Word.

Bonus Activity:

Return to the web links document. Add a new web page with citation and note that the bibliography does not automatically update. Update the bibliography. Save and close.

12.4 Marking Index Entries

An index lists the terms and topics that are discussed in a document, along with the pages that they appear on. This can be used to build a glossary of terms at the end of a book.

Select the word or phrase to add an index entry for, then press **alt+shift+x** to mark the entry. This is also on the References ribbon with **alt+s**, then **n**. The Mark Index Entry dialog appears. The text which was selected is in the "Main Entry" field. If no text was selected, it will need to be typed here. Press **enter** to mark just the current occurrence or **alt+a** to mark all occurrences in the document.

The dialog box remains open with the focus on the "Close" button. Press **escape** or **enter** to close the dialog.

Once an entry has been marked, formatting symbols are automatically turned on in the document. This puts a visual mark where whitespace characters (space, tab, newline) are. For index entries, the text has some code next to them. If a line contains "red boots" and "red" is marked as an index entry, the line will now read:

```
red { XE "red" } boots
```

Visually, the index entry is surrounded with "{" and "}" braces. They are special characters, however, which NVDA does not read. To turn the display of formatting symbols off again, press **control+***, that is, **control+shift+8**).

The next activity will include some "pangrams". A pangram is a sentence which uses every letter of the alphabet. Let's create a document and mark some index entries now, which can be used to create a word index shortly:

Activity: Marking Index Entries

1. Open a blank document.
2. Type the following sentence "The quick brown fox jumps over the lazy dog."

3. Press **control+enter** to move to a new page and type: "A large fawn jumped quickly over white zinc boxes."
4. Move back to page 1 and select the word "quick".
5. Press **alt+shift+x** to mark the entry to go in the word index.
6. Press **tab** to move through and explore the other fields in the dialog.
7. Press **alt+a** to mark all occurrences of this word.
8. Press **enter** to close the mark index entry dialog.
9. Save the document as "Pangram" and leave it open for next activity.

Bonus Activity:

Ensure the Pangram document is still open. Mark index entries for the words "over", "brown" and the phrase "zinc boxes". Read through the document. Press **control+*** to turn formatting symbols off, then read the text again. Save the document.

12.5 Creating a word index

Once all the entries have been marked, move to the end of the document and press **alt+s**, then **x** to insert an index. On the Index dialog, the number of columns can be selected, as well as whether page numbers appear directly after references or are right aligned. If right aligned, the tab leader character can be chosen. There is also an option for formats, which like the table of contents formats, changes the appearance and style of the index. The "Automark" feature marks all the entries to be indexed at once, based on a precompiled concordance file of words. When the Automark button is activated, an open dialog is presented to select the concordance file.

If more text is added to the document later, mark any new entries in the same way as previously. Move to the index, then either press **f9**, or open the context menu and choose "update field".

Activity: Creating a word index

1. Ensure the "Pangram" document is open.
2. Repeat steps 4 to 8 from the previous activity, to mark an index entry for the word "jumps".
3. At the bottom of the document, press **alt+s** to open the "References" ribbon, then **x** to create an index.
4. Press **tab** to move through the options in the dialog box until the focus is on "Formats".
5. Press **down arrow** to select "Classic", then press **enter** to close the formats drop down list.
6. Press **enter** to close the "index" dialog box and create the index.
7. Press **control+shift+8** to turn formatting marks off.
8. Read through the index. Note the "Classic" style groups words under their first letter.
9. Save the pangram document and leave it open to use again.

Bonus Activity:

Create a new document. Writing each phrase on a new page, type the following lines of text:

"1 KB = 1000 bytes"

"1 MB = 1 million bytes"

"1 GB = 1000 MB"

"1 TB = 1000 GB"

Mark index entries for the words "bytes", "KB", "MB", "GB" and "TB". On a new page insert a Word Index, formatting in the "modern" style. Check the formatting information to investigate the differences between this index, and the index in the pangram document. Save as "PC Terms".

12.6 The Mark Index Entry dialog

Once the Mark index Entry dialog is open to mark a specific word in the text, it has a number of options to customise the way entries are treated.

A word can be marked as a sub-entry. If marking an entry for "pie", instead of just making the entry "pie", the entry could be called "food" with "pie" as a sub-entry. "Cake" could then be marked as another sub-entry of "food" when it appears in the text. Note that the entry word ("food" in this example) does not need to be in the document.

By default, the index will record the current page of the entry. This can be changed to point to an existing bookmark, such as at the start of the section, or to a cross reference. A cross reference, in this case, directs the reader to a different word. Instead of having entries for both "nap" and "snooze", the word "nap" might be marked as a cross reference to "See snooze". In this case, page numbers for "nap" are not recorded. To indicate that both entries are related and need to record page numbers for both, use sub-entries.

Finally, whether the page numbers are in bold or italic can be set.

Activity: The mark index entry dialog

1. Make sure the "Pangram" document is open from the previous activity.
2. Select the word "jumped" and press **alt+shift+x** to open the mark index entry dialog.
3. Press **alt+c** to make this a cross-reference to "see also" and type the word "jumps".
4. Press **enter** twice to mark the entry and close the dialog box.
5. Select the word "fox" and press **alt+shift+x** to open the mark index entry dialog.
6. Change the text in the "Main entry" edit from "fox", to "animal" then press **tab** to move to the sub-entry field.

7. Type "fox" in the sub-entry field, then press **enter** twice to accept and close the dialog.
8. Move to the index at the end of the document, open the context menu and choose "Update field".
9. Read through the changes in the document before saving and closing Word.

Bonus Activity:

In the Pangrams document, mark both "dog" and "fawn" as sub-entries of "animal". Add another page before the word index and type the pangram: "The five boxing wizards jump quickly." Update the word index. Note that new instances of words and variations are not added to the index. Entries being omitted is a danger if the document is edited after marking entries. Save and close.

12.7 Table of authorities

A table of authorities is used in legal documents to cite cases, statutes, regulations and other types of official references.

Setting it up is similar to setting up a word index. Find the first mention of a case or other legal reference, and press **alt+shift+i** to open the "mark citation" dialog. This is also available from the references ribbon by pressing **alt+s**, then **i**. As with index entries, press **enter** to mark the current occurrence or **alt+a** to mark all occurrences.

When the dialog opens, the focus is in the short citation field. The full selected citation may read, for instance, "McCulloch v. Maryland, (1819)". It is possible to include any references to the case by only the first name ("McCulloch" in this case). To do this, include the first name in the short citation field and press the "Mark all" button.

Once all the entries have been marked, move to where the table of authorities is to be inserted. Press **alt+s** to open the References ribbon, then **r** and **t** to insert a Table of Authorities.

Let's create a document with a Table of Authorities now:

Activity: Adding a Table of Authorities

1. Open a blank document.
2. Type the following lines, each on a new page:

Miranda v. Arizona (1966) established that prisoners must be advised of their rights.

Bush v. Gore (2000) resolved the 2000 US Presidential election.

Miranda is now a commonly known term.

Bush was president until 2009

3. Select "Miranda v. Arizona (1966)" and press **alt+shift+i** to open the "Mark Citation" dialog.
4. Press **alt+a** to mark all citations, then **enter** to close the dialog.

5. Move to the bottom of the document and leave a blank line.
6. Press **alt+s** to open the References ribbon, then **r** and **t** to open the "Table of Authorities" dialog.
7. Press **tab** to move through the options but do not change any.
8. Press **enter** to accept and create a default Table of Authorities.
9. Read through the document, before saving as "Table of Authorities" and closing Word.

Bonus Activity:

Open the Table of Authorities document. Select "Bush v. Gore (2000)". Open the mark citation dialog, and in the short citation edit, type "Bush". Mark all citations, then return to the document. Update the table of authorities. Read through the document and note the two references to Bush. Save the document and close Word.

12.8 Academic References review

This section covered a lot of the academic and legal tools in Word to reference other sources or link to information within the current document. Some of the key concepts included:

- Citations
- Bibliography
 - Creating
 - Updating
 - Editing
- Word Index
 - Marking Index Entries
 - Creating a Word Index
 - The Mark Index Entry Dialog
- Creating a Table of Authorities

Activity: Academic References review

1. Open the Word journal used in previous review activities.
2. At the bottom of the document, add "Academic References" as a heading level 2.
3. Using the journal styles, type a bulleted list with points covering what each of the following can be used for:
 - Table of Authorities
 - Citation
 - Bibliography
 - Word Index
4. Read through the document and mark words or phrases for 5 of the most challenging or interesting concepts encountered so far in this module to include in a word index.

5. Under a heading level 3, create a Word Index. Use "Modern" format, 3 columns, page numbers right aligned, and a tab leader of your choice.
 6. Under a heading 3, type a sentence on each of the following:
 - Using short citations
 - What a "sub-entry" is in the word list
 - How to update a bibliography
 7. Mark at least one word from the text written in step 7 to add to the word index. Mark one as a sub-entry.
 8. Select the whole document and update to ensure both the table of contents and word index are up to date.
 9. Ensure formatting marks are turned off before reading through the document, then saving and closing Word.
-

13 Inserting

The aim of this section is to cover some of the features Word has for inserting non-standard text in documents that have not already been covered.

Goals for this section include:

- Symbols
- Pictures
- Smart art
- Charts
- Signatures
- Shapes and Text boxes

13.1 Inserting Symbols

There are several ways of adding symbols to a document. Many of the most common symbols are already on the keyboard. Some have their own key, and others use **shift** and another key, such as the symbols on the number row keys. The exact symbols available on the keyboard depend on the region and language settings chosen in Windows.

The "symbols" function on the Insert ribbon has a list of common symbols which are not on most keyboards. These include common foreign currencies and mathematical symbols such as the number "pi". To insert these into a document, press **alt+n**, then **u** to access the symbols. These symbols are in a 5x4 grid. Use the **tab** key to move around the list.

There is a "more symbols" option which opens a dialog box with additional symbols. This may not read correctly in all versions of Office. Object navigation can be used to move through objects on this dialog by pressing **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**).

Word has keystrokes to insert a number of common symbols directly. Word can also replace characters in typing to insert symbols, when typed as (, then the letter(s), then). These common symbols are:

- To insert the Euro symbol, press **control+alt+e** or type (e)
- To insert the Registered Trademark symbol, type **control+alt+r** or type (r)
- To insert the Trademark symbol, type **control+alt+t** or type (tm)
- To insert the Copyright symbol, type **control+alt+c** or type (c)

There are several types of emoticons, or faces, as well as arrows, which can be inserted using combinations of characters:

- To insert a smiley face, type :-)
- To insert a frownie face, type :-(
- To insert a flat mouth face, type :-|
- To insert a left pointing arrow, type <--
- To insert a thick left pointing arrow, type <==
- To insert a double ended arrow, type <=>
- To insert a right pointing arrow, type -->
- To insert a thick right pointing arrow, type ==>

When inserting emoticons, the hyphen "nose" is optional. The arrows and emoticons are currently read as "left paren".

Emoji can also be entered via the Windows Emoji panel. The emoji panel works from anywhere in Windows. Press **Windows+** to open the emoji panel. Press the **right arrow** to move through the emojis and **tab** to move between emojis and categories. On the categories list, press **enter** to select a new category. Press **enter** to insert the currently selected emoticon, and **escape** to close the panel.

Word has an "equation" feature (**alt+n**, then **e**) which inserts equations into a document as editable fields. This feature is not currently accessible. The programs MathPlayer and MathType, both by Design Science, enable creating and reading equations. These work in many applications, including Microsoft Word (See <https://www.dessci.com/en/products/mathplayer/> for more information on MathPlayer and MathType).

Let's add a couple of symbols to a document now:

Activity: Symbols

1. Open a new, blank document.
2. Type "The three symbols I am most likely to use are:" before leaving a blank line.
3. Press **alt+n**, then **u** to open the list of commonly used symbols.
4. Use the **arrow** keys to choose a symbol in the grid you might use, and press **enter** to insert it.
5. Type a sentence about the chosen symbol and what it can be used for.
6. Repeat steps 3 to 5 to add two more symbols with explanations.

7. On a new line, type: "To get to the top of the Eiffel tower costs".
8. Press **control+alt+e** to insert the Euro symbol, then "17" (The price, in 2016, was €17).
9. Save the document as Symbols and leave it open for next activity.

Bonus Activity:

On a new line, type "Don't worry, be happy", then insert a frown, a thick right pointing arrow and a smiley face. If using Windows 10, open the emoji panel and insert three symbols from different categories.

13.2 Pictures

A picture can be inserted into a document by pressing **alt+n** to open the "Insert" ribbon, then pressing **p** to choose picture. An open dialog box appears, from which an existing image file can be selected. This will insert a picture from the computer, a local hard drive, or OneDrive.

In Word 2013 or later, an image from the web can be inserted by pressing **alt+n**, then **f**. This opens a window where an image search can be performed in Bing. It is also an alternate way of using an image stored in OneDrive. If using online image search, try using very precise terms such as "ginger kitten sleeping" instead of generic terms such as "cat". Pressing **tab** allows setting options such as the size, type and colour of the desired image to further refine the search. Once the focus is on the first image (press **tab** once past "clear filters" or "license"), press **alt+arrows** to navigate the images. Press **enter** to select an image, then **tab** to the "Insert" button and press **enter** again to insert the image. Note that it may take some time for the image to be downloaded.

There is also an "online video" option on the Insert ribbon which works the same as online pictures. Press **alt+n**, then **n**, then **v** to access this feature.

In Word 2010, instead of online pictures, there is a feature called "Clip Art". These are mostly line drawings of common objects which can be added to usually informal documents, such as fliers. To add clip art, press **alt+n**, then **f**, type the search term and press **enter**. Next, **tab** to the list of results. The results are all named the same. To insert one, select it, open the context menu and choose "insert". After an image is inserted, the focus returns to the document, with the image selected. The first time a search is performed, you may be asked whether to include images from Office Online.

Finally, an image of the screen of the computer, called a screenshot, can be captured by pressing the **print screen** key. On a full size keyboard this is the key to the right of **f12** and above the **insert** in the navigation keys (not on the number pad). This takes an image of the whole screen and copies it to the clipboard.

Let's add an image to a document now:

Activity: Adding a picture to a document

1. Open a blank document.
2. Type the heading: "Here is an image of the Windows desktop".
3. Press **enter** to move to a new line.
4. Press **windows+m** to minimise to the desktop.
5. Press **print screen** to capture an image of the current screen.
6. Press **alt+tab** to move back to Word.
7. Press **control+v** to paste the image into the document.
8. Save the document as "Screen shots" and leave it open to return to next activity.

Bonus Activity:

Move to the bottom of the screen shots document. Insert a picture from the web, which is a "screen shot of Windows". On a new page, add another image of a "ginger kitten sleeping".

13.3 Picture options

When navigating around a document, Word indicates images with "graphic". These can also be located by pressing **NVDA+spacebar** for browse mode, then **g** to move to the next graphic or **shift+g** for the previous graphic. In browse mode, graphics are also searchable via the elements link dialog (**NVDA+f7**).

When selected, NVDA reports images, as well as several other objects, as "slash selected". With an image selected, it can be rotated by holding **alt** and pressing **right arrow** or **left arrow** to rotate the image to the right or left respectively. The image rotates 15 degrees each time. Pressing **alt+right arrow** 6 times will rotate an image onto its right edge. It will be upside down if **alt+right arrow** is pressed 12 times.

Choosing "size and position" from the context menu allows adjusting the size of the image to best fit the document. This uses the default measurement units, so it is important to know how big the page is in order to best setup an image. To find this out, press **control+p**, then press **tab** to move to and read the "page size", and finally, press **escape** to return to the document.

By default, images are inserted "in line" with text. This treats the image as one (often very tall and wide) character. It is possible (via the context menu) to change the way text is wrapped around the image (called "Wrap text"). This allows control over exactly where the image is placed, however, changing the image from "in line" also means it will not be found while navigating around the document.

Inserting images on a blank line ensures there will not be half a line of text beside the bottom of the image.

Another tip for having an image next to text is to use tables. A two column, one row table, can have text on one side and an image on the other. For instance, place a paragraph of text in the left cell and an image in the right cell.

Adding a caption to images has all the advantages of using captions with tables. Captions also provide a place to type a description of the image which is displayed visually. If placing an image inside a table purely for layout purposes, caption the image rather than the table.

Like tables, images can have alt text. NVDA reads the alt text when identifying the image. With the image selected, open the context menu and choose "Edit alt text". The alt+text pane contains an edit box to type a description, a button to "Generate a description for me" and a checkbox if the image is purely decorative.

Let's adjust the properties of the screenshot in the screen shots document now:

Activity: Picture options

1. Make sure the "Screen shots" document is open and move to the bottom of the document.
2. Press **control+p** to open the print dialog, then press **tab** to move through the information. Read the width of the page, which is the first value in the page size control before pressing **escape** to close the dialog.
3. Take a screen shot of the current screen and paste it under the heading: "A picture of Word".
4. After the image is pasted, the cursor is placed just after the inserted picture. Press **shift+left+arrow** to select the picture.
5. From the context menu, choose "Size and position". The focus starts on the "Size" tab control.
6. Press **tab** until the focus is on the absolute width edit.
7. Type a new value that is roughly 1/3 the width of the page (70mm for A4 or 2.83" for Letter).
8. Press **enter** to save the changes to the image.
9. Save the "Screen shots" document and close Word.

Bonus Activity:

Open the the screen shots document. Read through it, and add captions to each image. Add a table of figures at the end of the document. Move back to each image and add alt text. Use Word's feature to generate alt text, and edit as needed.

13.4 Smart Art

Smart art is used to create a diagram in a document. This can be useful for a flow chart, Venn diagram, corporate hierarchy, process or pyramid, as well as many other types.

To create smart art, press **alt+n** to open the Insert ribbon, then press **m** for Smart Art. The Smart Art dialog appears, with the focus in the "Graphic category". Other categories include: list, process and cycle. From here, press **tab** to move to the "Graphic layouts" list, where the specific type of diagram can be selected.

Press **enter** to add the diagram to the document. The focus moves to a "type your text here" dialog with a list of bullet points which can be edited to populate the diagram.

To ensure no blank bullet points are inserted in the diagram, press **control+a** to select all the points, then press **delete**. The focus is on the blank, first point ready to type. Each time **enter** is pressed, a new point is created. If **tab** is pressed, the current point will be indented. On the diagram this makes it a sub-point of the previous item. The exact behaviour and appearance in the diagram differs, depending on the type of diagram being created. Pressing **shift+tab** removes any indent, and makes the current point the same level as the one above.

While editing SmartArt, two new ribbons are available, SmartArt Design (**alt**, then **j**, then **s**) and SmartArt Format (**alt**, then **j**, then **o**). From the design ribbon, the diagram type and colours can be changed, shapes and point added, and points or the whole diagram can be reset. From the format ribbon, finer control is available over the colours, shading and fill of different sections and the fonts and font effects used.

If the "Type your text here" text pane gets closed, it may not appear when you create a new SmartArt. After inserting a smart art, press NVDA+tab to read the item with focus. If NVDA reports "Type your text here", the pane is open. If the pane is closed, reopen it by pressing **alt**, then **j**, then **s**, then **x**.

Smart art can also have alt text which is added in the same way as for images. Select the smart art, and choose "edit alt text" from the context menu. Word cannot generate alt text for smart art.

Let's create a document with a smart art diagram now:

Activity: Smart art

1. Create a new, blank document.
2. Type a heading 1 heading "My vegetable stall".
3. Press **alt+n**, then **m** to choose Smart Art from the Insert menu. The "Choose a SmartArt Graphic" dialog appears.
4. Press **down arrow** until the focus is on "Cycle", then press **tab** to move to the "Graphic layouts", which has different types of circle diagrams.
5. Press the **right arrow** once to select "Text Circle", then press **enter** to insert it into the document. This will create a circular diagram with arrows from one point to the next, and eventually back to the first point.
6. The focus is on the "Type your text here" dialog, which has five bullet points. Press **control+a** to select all these points and **delete** to remove them. The focus stays on the first bullet point.
7. Type "Plant seeds", then press **enter**. The text is added to the chart and a second bullet point created.
8. Type two more points: "Grow veggies" and "Sell veggies". The diagram illustrates that after planting seeds, the next task is to grow veggies and then sell them. After selling veggies, the next task is to plant more seeds again.
9. Save the document as "vegetable stall", and leave it open to use again next activity.

Bonus Activity:

Navigate to the bottom of the "Vegetable stall" file. The food pyramid is a popular diagram. It illustrates which foods to eat more of and which to eat less of. Healthy foods, such as fruit and vegetables, are written in the large base of the pyramid. Foods such as fats and oils are written in the small tip of the pyramid. Under a suitable heading, insert a "Basic Pyramid" diagram into the document. Search for "Food Pyramid" on the web if unsure what foods to add to the pyramid. Add alt text to the food pyramid.

13.5 Charts

A chart is a way of presenting data in a document. Where SmartArt diagrams are mostly text based, charts are based on numerical values from a table. Data can be anything numerical, such as: sales information, monthly grocery bills, or employee working hours. To insert a chart, open the Insert ribbon with **alt+n**, then press **c** for Chart.

On the Insert Chart dialog, press **tab** once to move to the list of chart types. These include: bar chart, pie chart, histogram, etc. Once a chart type is chosen with the **arrow keys**, press **tab** to select the options for the chart type chosen or **enter** to accept the default options.

After pressing **enter**, the chart will be created and Word identifies it as a Microsoft Excel chart. Microsoft Excel is another program in the Microsoft Office suite, which will be covered in another module. Excel lets you work with spreadsheets, which are like tables, designed around performing calculations and formulae. Word opens a small Excel window where the data for the chart can be added.

For a simple chart, the category labels are in the first column (A), and the values in the second column (B). In this case, the first cell in column B (B1) is where the title of the chart is.

For a more complex chart, category labels are in the first column (A), and series labels are across the first row, with the data values in the rest of the table. A chart might, for instance, have the months of the year in column A, and product categories across row 1, with the sales for each product for a given month in the appropriate cell. Press **alt+f4** to close the excel window.

While navigating around the document, the chart will be identified as "Embedded object". To edit the data later, select the chart, then choose "Edit data" from the context menu.

Because charts are designed to be read visually, it is a good idea to present important data in a regular table in the document. The data from the table can be copied to use in a chart. Let's do that to add a table and a chart about sales to the vegetable stall document now:

Activity: Charts

1. Make sure the "vegetable stall" document is open.

2. At the bottom of the document, type the heading "Sales", and insert a table with 2 columns and 5 rows.
3. Leave the first cell blank, then down the first column, type: "Apples", "Oranges", "Bananas", "Melons". In the second column, type: "January Sales", then "3", "2", "7", "1".
4. Select all the contents of the table and copy to the clipboard.
5. Move to the bottom of the document, leave a blank line, then press **alt+n**, then **c** to create a chart.
6. Press **down arrow** to choose "Pie chart", and press **enter**. The chart is created and the focus is in the Excel sheet for the chart's data.
7. Press **control+a** to select all the existing data, then **control+v** to paste the data copied from the table.
8. Press **alt+f4** to close Excel then **escape** to get out of the chart.
9. Save the "vegetable stall" document and close Word.

Bonus Activity:

Open the vegetable stall document and navigate to the table with January's fruit sales. Edit the table to include additional columns for sales from February and March. Add sales figures for each item from these months. Copy the full table data, then move to the bottom of the document. Insert a "3-D Clustered Column" chart to display the sales. Each column group contains the sales of one type of fruit, with the first column being January, the second February and the third March. Save the document and close.

13.6 Signatures

Digital signatures are a way of verifying the authenticity of a document. Once a document has been digitally signed by the author, it cannot be edited again without the signature being deleted.

Press **alt+n** for Insert, then **g** to open a signature menu. From here, either a Microsoft Office Signature Line or "Add signature services" can be selected. There are a number of services which can be subscribed to, which allow digitally signing various types of documents (not only Word documents). Many of these can be integrated into Word.

When a Microsoft Office signature line is added, a dialog opens allowing you to include: the name, title and contact details of the signatory. Pressing **tab** to navigate only reads the edit boxes themselves, rather than the labels. For this dialog, press **NVDA+numpad 8** (laptop: **NVDA+shift+up arrow**) once to move to the containing object. This reads the label. Note that if you press this command again, the review cursor moves further away from the edit box. To have NVDA re-read the label once the review cursor has moved to it, press **numpad 8** (laptop: **NVDA+shift+.**) to read the line of text at the review cursor again. The document can be signed by selecting the signature line and choosing "sign" from the context menu. In the dialog which appears, the focus is on an edit field to type your name. There is also a link to select an image of your actual signature instead. Personal details and also the signing service to use can also be updated.

If no signing service is selected, some versions of Word will still allow the document to be signed, however, it will not be as secure or verifiable. The use of signature services is beyond the scope of this module.

Once a document has been signed, it is marked as final and cannot be edited as normal. A "Marked as final" warning line appears visually above the document to indicate this and the lower ribbon is hidden. To edit the document, press **f6** to move to the "Marked as final" grouping, **tab** to the "Edit anyway" button and press **enter**. This reverts the signature line to unsigned and allows editing as normal.

Again, this document does not cover using signing services, but let's add a signature line to a document with a makeshift signature to get a feel for how it works:

Activity: Signatures

1. Open a new, blank document and type the heading "Memo from the CEO", then leave a blank line and type "To celebrate my birthday, everyone can have the day off tomorrow."
2. Press **alt+n**, then **g** and **enter** to open the signature setup dialog.
3. Press **NVDA+numpad 8** (laptop: **NVDA+shift+up arrow**) to read each field label and **tab** to move between fields. Type your name as the suggested signer, and "CEO" as the suggested signer's title.
4. Press **enter** to add the signature line to the document. Next, press **shift+left arrow** to select the signature line.
5. From the context menu, choose "Sign". A dialog appears advising that the document needs to be saved before it can be signed. Press **enter** to accept this, then **enter** again to accept the suggested name of "Memo from the CEO".
6. In Office 2016, if no signing service is installed, an error message appears. Press **enter** to accept this and skip the rest of the activity.
7. In earlier versions of Word, the signature dialog appears, with the focus in the "Signer edit" field. Type your name and press **enter**.
8. Unless a signature service has been installed previously, Word will prompt that the signature cannot be verified. Press **enter** to accept this. A second dialog appears, advising that the signature has been saved with the document. If the document is changed, the signature will become invalid. Press **enter** to accept this dialog as well.
9. The document has been marked as final and saved automatically. Close Word.

Bonus Activity:

Create a new document. Type a letter offering someone a job. Add a signature to the document from the HR manager. Save as HR Letter and close.

13.7 Shapes and Text Boxes

Two options on the Insert ribbon, which are not covered in this module, are Shapes and Text Boxes. The shapes option is used to insert lines, arrows, triangles, circles, stars and

other visual items into a document. Prior to late 2018 Office 365, these were not accessible, as they required the mouse to insert. They also "float" above text, and are not easy to locate during navigation.

In Office 365 or Office 2019, to insert a shape, press **alt+n**, then **s**, then **h**. From the menu which opens, press **tab** to move through the different shapes, and **enter** to insert one. From the context menu, select "Wrap text" and choose "In line with text". This option makes the shape accessible from the current point in the text. With the shape selected, press **alt+j** then **d** to access the shape format ribbon. From the ribbon size, colour, rotation and other features can be adjusted.

Text Boxes are a way of inserting text with precise (mouse) control over the exact location. These can be used with shapes to create custom diagrams. It is not recommended to have important information in text boxes, as they are also floating by default and not accessible. It is possible to set text boxes and shapes to be "in line with text", also called "inline". This can make them easier to find. If a text box is inline, then it behaves similarly to a picture, and identifies as a "slash" in the text. Select only the slash in order to select the text box, and interact with the text box. With the text box selected, press **enter** to edit the contents. This enables the text of the text box to be read, or edited. Press **escape** once to finish editing but leave the text box selected. Press **escape** a second time to unselect the text box.

If there is a text box in a document, it is possible to navigate to, even if the text box is not inline. First, press **alt+n**, then **x** to insert a new text box. Next, press **escape** to move out of editing the new text box. Finally, press **tab** to move between any other text boxes and objects, such as pictures, which are in the document. Note that this method adds a new text box into the document. Be sure to close the document without saving, once you have read the information.

Activity: Shapes and Text boxes

1. Open a new document.
2. Type "Here is some text".
3. Press **alt+n**, then **x** to insert a text box. Press **enter** to choose the default style.
4. Type "Here is an inline text box".
5. Press **escape** once to finish editing. The focus stays on the text box.
6. Open the context menu, press **w** to choose "Wrap text" and press **enter** to choose "In line with text".
7. Press **control+home** to move to the top of the document, then use the right arrow to find the text box, which identifies as "slash".
8. Press **shift+right arrow** to select the text box, then press **enter** to edit it and read the contents.
9. Press **escape** to finish editing and again to unselect the text box. Close Word without saving.

Bonus Activity:

If using Office 365 or Office 2019, open a new document, and insert a "cube". Press **enter** to add text and type "This is a cube". Using shape fill on the shape format ribbon, set the fill colour to light green. In the "Wrap text" context menu option, set the cube to be "in line with text". Also under "Wrap text", use "More layout options" to set the size to be double the original size. Add alt text which reads "This is a green cube". Read through the document and close without saving.

13.8 Inserting review

This section covered some of the features Word has for inserting objects and special text in documents.

Some of the key concepts included:

- Symbols
 - Inserting and reading
 - How to insert and read equations
- Pictures
 - Inserting
 - Navigating
- Captions & table of figures
 - Adding captions to images
 - Creating a table of figures
- Smart art
- Charts
- Signatures
- Shapes and Text boxes

Activity: Inserting review

1. Open your Word journal.
2. Move to the bottom and add the heading level 2 "Inserting".
3. Add a basic chevron process SmartArt with three levels (label them "Dress", "Eat Breakfast", "Brush teeth").
4. Take a screenshot of the desktop and add it under a heading 3, and add the caption "My desktop". Add generated alt text to the image.
5. Under a heading 3, create a bulleted list with points on the following:
 - How to use a chart
 - How to add a digital signature
 - The problem with using text boxes
 - An alternative to using text boxes
6. Create a hierarchy SmartArt with "Grandfather", then "auntie" and "father" (both indented one level) and "me" (indented one extra level).
7. Appropriately caption the two SmartArt diagrams and then create a table of figures.
8. Type "Trademark is not equal to copyright". Replace the terms "trademark", "not equal to" and "copyright" with their respective symbols while writing the line.

14 Collaboration

The aim of this section is to cover some of the features Word has to enable collaboration with others, reviewing changes and sharing documents.

Goals for this section include:

- Comments
- Track changes
- Annotations
- Comparing documents
- Restricting editing
- Translating
- Saving in other formats
- Sharing via E-Mail
- Mail Merge
- Individual labels and envelopes

14.1 Comments

Comments can be used to add notes to a document. These notes are not part of the main document itself, similar to comments that someone might handtype in the margins. These could include notes to reword or follow up on sections of text.

To insert a comment, press **control+alt+m**. This puts the focus in a balloon in the right margin, where the comment can be typed. If **NVDA+f** is pressed to check the formatting, NVDA will read "Style: Comment text". After typing the comment, press **escape** to return to the body of the document.

A comment is attached to the whole current word. This enables it to be located from anywhere in that word. While navigating through a document, NVDA reports "Has comment" when it encounters text with a comment. To read the comment, press **NVDA+alt+c**.

When a comment is inserted, your username is included to allow others to see who made the comment. The user name used is the same one covered in "Setting document properties" in the "Page Layout" section.

Let's add a comment to a document now:

Activity: Comments

1. Open a new document.
2. Type "Morning coffee, nice and strong."

3. Press **control+alt+m**. The focus moves to the comment balloon to type a comment.
4. Press **NVDA+f**. NVDA reads the current style which is "Style: Comment".
5. Type "We should also offer tea."
6. Press **escape**. The focus returns to the document.
7. Read the current line. NVDA indicates that the word "strong" has a comment.
8. Navigate to the word "strong", listen for NVDA to report "Has comment" again and press **NVDA+alt+c** to read the comment.
9. Save the document as "coffee" and leave it open to return to.

Bonus Activity:

At the end of the coffee document, add a line which reads "Ode to coffee". Add a comment to the word "Ode" which reads "well, one line at least". Return to the body of the document and read through before saving.

14.2 Navigating to comments

In Browse mode, NVDA treats comments in Word as "annotations". NVDA can navigate between comments by pressing **a** to move to the next annotation, or **shift+a** to move to the previous annotation.

Annotations are also available from the Browse mode elements list. Press **NVDA+f7** to open the elements list dialog and choose Annotations with **alt+a**.

NVDA is in focus mode by default. Press **NVDA+spacebar** to toggle NVDA between focus and browse modes.

To edit a comment, press **alt+r**, then **n** to move to the next comment. Alternatively, press **alt+r**, then **v** to move to the previous comment. Either of these commands moves the focus to the comment itself. Edit the comment like any other text, and press **escape** to return to the main text.

The print task pane include an option to select whether comments are printed with the main text. From the print pane or dialog, navigate to the "print what" combo box. In Word 2010, choose "Document showing markup" to print with comments or "Document" to print without comments. In Word 2013 or later, down arrow to "comments" and press **spacebar** to select whether or not comments are printed.

Activity: Navigating to comments

1. Make sure the "coffee" document is open from the previous activity and that the focus is at the bottom of the document.
2. On a new line, type another sentence: "Keep me awake, all day long."
3. Navigate to the word "awake" (you do not need to select it) and add the comment: "No naps!"
4. Press **escape** to ensure the focus is in the document, then press **NVDA+spacebar** to put NVDA into Browse mode.

5. Press **NVDA+f7** to open the elements list.
6. Press **alt+a** to move the focus to the "Annotations" radio button and press **spacebar** to select it.
7. Press **tab** to move to the elements list then press the **up arrow** to select the first annotation.
8. Press **enter** to close the dialog box and move to the text with the comment in the document.
9. Press **NVDA+spacebar** to put NVDA back in focus mode, save the "coffee" document and leave it open to return to again.

Bonus Activity:

Still in the coffee document, with NVDA in browse mode, open the elements list. Select annotations and read the list of annotations to note they are in order. Close the elements list and select the "Ode to coffee" line. In Focus mode, move this line to the start of the document and make it a heading one. Edit the comment to read "A whole poem". Save the document.

14.3 Track Changes

When enabled, "track changes" automatically records anything which is added, removed or changed in a document. It also records the User Name of the user who made the changes.

Press **control+shift+e** to turn track changes on. The keystroke is a toggle, so press **control+shift+e** to turn track changes off again. While on, any changes made to the document will be noted.

When checked, "Report editor revisions" in NVDA's document formatting dialog will report where text has been inserted or deleted while navigating around a document. This checkbox is checked by default. One method of ascertaining whether track changes is on is to start by moving to text which is not marked a "inserted". Next, press the shortcut, type a letter then left arrow over it and note whether NVDA reports "inserted".

The "Track Changes" icon in the ribbon indicates whether track changes is on or off. Press **alt+r** to access this ribbon, then **g** to move to the "track changes" button, and note whether it is "Checked" or not. The status bar in Word can also be configured to show whether track changes is on or off. Setting this option is covered in the "Word Options" section. If set, press **NVDA+end** to read the status bar.

NVDA's browse mode elements list dialog (press **NVDA+F7**) can be used to navigate between changes. Like comments, changes are treated as "annotations".

Let's make some changes to a document now to see how it works:

Activity: Track changes

1. Make sure the coffee document is open.

2. Press **control+shift+e** to turn track changes on.
3. At the bottom, type the line "Juice with lunch, won't go wrong."
4. Read through the text, and note that NVDA reports "Inserted" when reaching the last line.
5. In the first line of the poem, change the word "nice", to "hot".
6. In the second line, change "day" to "night".
7. Read both lines and note how this is considered both an insertion and a deletion.
8. Press **control+shift+e** to turn track changes off.
9. Save the document and leave it open.

Bonus Activity:

Turn track changes on. Move to the bottom of the text and add another line which reads "Another before the dinner gong". Read the whole document. Move to the start of the last line and change "Another" to "One more". Read the line and note that the change is not recorded separately. The insertion of the whole line is considered one new change. Move to the top of the document. Press **control+shift+e** to turn track changes off. Type a letter, then press the **left arrow** and note that NVDA does not report "inserted". Turn track changes on and repeat the test. Remove the extra characters, then save the document and leave open.

14.4 Accepting changes

Often, track changes will be used when editing someone else's document. The document with changes tracked can then be sent back to that person to review.

Word includes buttons on the ribbon to move between changes to accept or reject them. In browse mode, NVDA can jump to the next or previous annotations with **a** or **shift+a**. Then use the context menu to accept or reject individual changes. Open the context menu, then press **e** to accept the current change, **r** to reject it or **t** to turn track changes off.

While moving through changes, each time text is added or deleted is treated as one change. Logically, changing the word "nice", to "hot", in the previous activity was one edit. However, Word treats this edit as two changes: one to delete the word "nice", and one to add the word "hot". In cases like this, it is important to either accept or reject both related changes.

It is possible to either accept or reject all changes to a document at once. Press **alt+r**, then **a**, then **1**, then **s** to accept all changes and turn off track changes. To reject all changes at once, press **alt+r**, then **j**, then **s**.

Let's explore the changes made in the document and accept or reject them:

Activity: Accepting changes

1. Make sure the "coffee" document is open and that the focus is at the start of the document.
2. Ensure NVDA is in Browse mode. Press **NVDA+spacebar** if needed.
3. Press **a** to move to the first change, the deletion of the word "nice".
4. Open the context menu and press **e** to accept the change.
5. Press **a** to move to the next change, the addition of the word "hot".
6. Open the context menu and press **e** to accept the change.
7. Read that line and note that none of the text is marked as "inserted" or "deleted".
8. Press **NVDA spacebar** to put NVDA in focus mode.
9. Save the document and close Word.

Bonus Activity:

Open the coffee document and put NVDA in browse mode. Move to the next change. Reject the two changes associated with changing the word "day" to "night". Use the ribbon item to "accept all changes and stop tracking". Read through the document. Save and close Word.

14.5 Comparing Documents

Word can compare two documents and present a "merged" document with the differences as tracked changes. Press **alt+r** to open the Review ribbon, then **m** to compare and **c** to choose to compare two documents. From the dialog which appears, select the two documents. The first document will be the "original" document and the second will be considered the "revised" document. So, if the original document has "I like cats" and the revised document has "I like dogs", the merged document will show "cats" as a deletion and "dogs" as an insertion.

On the compare documents dialog, there is a "more" button. When pressed, more options are presented to tailor exactly which elements of the documents are compared and how the changes are presented.

Let's create and compare two documents now:

Activity: Comparing documents

1. Create a blank document, type "I like cats" and save it as "cats".
2. Create another new document, type "I really like dogs" and save it as "dogs".
3. Press **alt+r** to open the review ribbon.
4. Press **m** to open the "compare" sub-menu then **c** to choose compare.
5. From the original document drop down, press the **down arrow** and choose "cats".
6. Press **tab** to move to the "Revised document" drop down list and choose "dogs".
7. Press **tab** to move to the "OK" button and **enter** to show the compared document.

8. Read through the document and note that the word "cats" is listed as a deletion. "really" and "dogs" are listed as insertions.
9. Leave the Window open to return to next activity.

Bonus Activity:

In a blank document, type "A TEST sentence" with the word "test" in capitals. Save as "Test1". In another document, type "Another test sentence" in lowercase. Underline the word sentence. Save as "Test2". Open the document compare feature and select the two documents. Activate the "More" button and press **tab** to move through the options". Ensure that "Formatting" is unchecked, and "Case changes" is checked, then activate the "OK" button. Read through the merged document. Note the formatting of the word "Sentence" and whether it is marked as a change. Close without saving.

14.6 Navigating while comparing documents.

Once a document comparison has been setup, there are a number of parts to the Window.

The main part of the window is the merged document. From here, pressing F6 moves between:

- The merged document
- The revision toolbar
- Word's status bar
- The Ribbon
- The original document
- The revised document

In the previous activity, the original document is "cats" and the revised document is "dogs". These two windows show a read-only version of these documents.

The revision toolbar shows a list of the differences between the two. This information is also available by navigating between annotations in Browse mode with the letter **a**.

Once any changes have been accepted, rejected or other editing done to the compared document, it can be saved.

Let's have a look at the document comparison again (note that this will need to be open from the previous activity).

Activity: Navigating while comparing documents

1. Make sure that the document comparison is still open from the previous activity (if not, you will need to re-do that activity).
2. Press **f6** to move between parts of the window until the focus is on the "original document (cats.docx)".

3. Read through the text and note that it is simply the "cats" file without any track changes.
4. Press **f6** to move to the "Revised document" and read it to confirm it is the unedited "dogs" document.
5. Press **f6** to move back to the "Compared document".
6. Press **NVDA+spacebar** to put NVDA in Browse mode.
7. Press **a** to move to the first annotation, which is the first change.
8. Press **a** to move through the changes in the document.
9. If continuing to the bonus activity, leave everything open. Or, if moving to the next topic, close everything.

Bonus Activity:

Move back to the first change in the text. Using the context menu and the keys covered in the "Accepting Changes" topic, accept or reject changes so that the final document reads "I really like cats". Save the document as "CatsandDogs". Read through the final document again to confirm that the text reads "I really like cats". Close Word.

14.7 Inspect Document

The document inspector checks a document to identify personal information and hidden properties which are saved in the document. This is a way of double checking the potentially private information which will be included if the document is distributed.

The first item on the File menu is the Info tab. The document inspector is located on this tab. Press **alt+f** to open the File menu, **i** to open the info tab then **i** for Inspect document. This opens a drop down list. The first item is "Inspect Document".

Press **enter** to launch Inspect Document. If the current document has not been saved, a dialog appears warning that this feature might remove data that cannot be restored later. The dialog offers to save the document, or continue without saving.

Next, the document inspector window appears. Press **tab** to move through the window and use **spacebar** to choose which items it will check for. By default, all the options are checked.

Press **enter** to run the inspector. The results screen shows all the same categories as the previous screen. Here, however, **tab** only moves between the "close" button, "remove all" buttons for any categories in which information was found, and the "reinspect" button.

While moving through the results with **tab**, when the focus is on any of the **remove all** buttons, it will read the type of information it has found. Press **enter** on any of the **remove all** buttons to remove that information. If there are **remove all** buttons, then no personal or hidden information was found.

Let's explore the Inspect Document feature now:

Activity: Inspect document

1. Create a new, blank document.
2. Press **control+alt+m** to add a comment.
3. Type "this is a comment" and press **escape** to return to the document.
4. Press **alt+f** to open the file menu, then **i** for the Info tab.
5. Press **i** for Inspect Document, then press **enter** to launch the document inspector.
6. Press **n** to not save the document before proceeding, then press **enter** to run the inspector.
7. Press **tab** to move through the results. There should be two: the comment that was just added, and personal information (document properties and author information). Move to the "Remove all" button for "Comments, Revisions, Versions and Annotations".
8. Press **enter** to remove the comments, then **escape** twice to close the inspector and the document info tab.
9. Look for annotations and note that the comment has been removed before closing Word without saving.

Bonus Activity:

Open any document you created in a previous task. Run the document inspector on it and identify which information is flagged. Let the document inspector delete all then return to the document. Read through and confirm the text is still intact. Run the document inspector again and note what is found this second time. Close without saving.

14.8 Accessibility checker

Word has a tool for checking the accessibility of documents. This is particularly useful for sighted users to ensure content is accessible, but can also be used to check that content is accessible to those with other disabilities. It can also locate things that NVDA might not find, such as floating text boxes.

The accessibility checker is on the File menu, Info tab, in the same menu as the document inspector. When activated, a task pane opens, however, focus returns to the document. Press **f6** to move focus to the accessibility checker pane.

If the document does not have any issues, the accessibility checker pane will display "No accessibility issues found". People with disabilities should not have difficulty reading this document". If issues were found, the focus will move to the first one, either an "error", a "warning" or a "tip". Press **down arrow** to hear what kind of issue it is, and **down arrow** one more time to the exact issue found. Press **enter** to select that issue. This also selects the object in the document itself. Press **tab** to the "Additional information", to learn more about the problem and read instructions on how to rectify it. Press **shift+f6** to move to the document, and perform the steps required to address the concern. Let's have a look now:

Activity: Accessibility checker

1. Open a blank document and press **alt+n**, then **x** to insert a text box.
2. Press **enter** to accept the default text box style, then **escape** twice to return to the document. The text box is floating, centered on the page, near the top. It contains a paragraph of text starting with "Grab your reader's attention with a great quote...".
3. Try using the reading and navigation keys to read the document, the focus never gets to the text box and you would not know it was there.
4. Press **alt+f**, then **i** to open the Info tab.
5. Press **i** to inspect document, then down arrow to "Check accessibility" and press **enter**. The accessibility check pane opens and the focus returns to the document.
6. Press **f6** to move the focus to the accessibility checker.
7. Read through the issue with **down arrow**, pressing **enter** on "text box" to load that issue.
8. Press **tab** to move to the additional information and **tab** again to read through the information.
9. Press **f6** to move to and read the text box itself before closing Word without saving changes.

Bonus Activity:

Open a blank document. Run the accessibility checker, and confirm there are no accessibility issues. Insert an online image of an aeroplane. Use the accessibility checker to report the accessibility issues with the picture. Add alt text to the image and run the checker again. Close without saving.

14.9 Collaboration review

This section covered some of the features Word has for collaborating and sharing information with others.

Some of the key concepts included:

- Comments
 - Inserting comments
 - Navigating to comments
- Track Changes
 - Turning track changes on
 - Accepting or rejecting changes
- Comparing documents
 - Comparing
 - Navigating while comparing
- Inspecting documents
- Using the Accessibility Checker

Activity: Collaboration review

1. Open your Word journal and add the heading level 2 "Collaboration" at the bottom.
 2. Run the accessibility checker. Explore the issues found. Under a heading 3, type a paragraph about any issues found, or what kind of issues the checker can find.
 3. Fix any accessibility issues the checker found. Record the fixes after the paragraph on the accessibility checker. Run the accessibility checker again to confirm everything is fixed. If no issues were found, type the message the accessibility checker gives.
 4. Turn on track changes, then type a paragraph about the document inspector.
 5. Use the "synonyms" feature to replace two words in each of the paragraphs written about the accessibility checker. Attach comments to each replaced word explaining why the change is better.
 6. Using the journal styles, type at least three key points about comparing documents in Word.
 7. Turn off track changes.
 8. In the paragraph about the accessibility checker, accept the changes associated with replacing one word. Reject the changes and do not accept the other word replacement in the same paragraph.
 9. Spell check the document, save changes and close Word.
-

15 Sharing

The aim of this section is to cover some of the features Word has to enable collaboration with others, reviewing changes and sharing documents.

Goals for this section include:

- Comments
- Track changes
- Annotations
- Comparing documents
- Restricting editing
- Translating
- Saving in other formats
- Sharing via E-Mail
- Mail Merge
- Individual labels and envelopes

15.1 Restricting editing

The restrict editing feature limits or prevents changes to a document. Restrict editing is found in the "Protect" grouping on the Review ribbon.

To access this in Office 365, press **alt+r**, then **z**, then **r**, then **p**, then **e**. In Office 2013 or 2016, press **alt+r**, then **p**, then **e**. In earlier versions press **alt+r**, then **p**, then **r**. This opens the "restrict editing pane" from the Review ribbon.

Once in the "restrict editing pane", press **tab** to move through the options available.

"Limit formatting to a selection of styles" has a settings button to choose the selection of styles.

"Allow only this type of editing" enables a dropdown list with options to allow "tracked changes", "comments", "filling in forms" or "No changes (Read only)". Forms are a hidden option designed to create word documents with checkboxes, edit fields and drop down lists users can fill in. While it is possible to create forms, it is not currently possible to fill them in with the keyboard.

After choosing which restrictions to use, certain users or groups can be set as exceptions, allowing them to freely edit the document.

Finally, there is a "Yes, start enforcing protection" button. Pressing this brings up a dialog to type, and confirm, a password which needs to be entered to remove the restrictions.

To remove restrictions, open the restrict editing pane again, and activate the "Stop Protection" button. If restrictions are protected with a password, type the password when prompted, then press **enter**.

Let's try it out now:

Activity: Restricting editing

1. Open the "dog" document.
2. Press **alt+r** to open the Review ribbon, then press **control+right arrow** to move to the protect grouping.
3. Press **enter** to open the protect grouping, then press **tab** to move to "Restrict editing" and press **enter**.
4. Press **tab** to "allow only this type of editing in the document" and press **spacebar** to check the checkbox.
5. Press **tab** to the combo box and choose "comments".
6. Press **tab** to the "Yes start enforcing protection" button and press **enter**.
7. Press **enter** without entering a password and **escape** to return to the document.
8. Try typing something. NVDA reports the letters you press but the document is unchanged. Press **NVDA+end** (**NVDA+shift+end** on laptop) to read the status bar. A message is displayed for a few seconds reading "you can't make this change because the selection is locked".
9. Close the document without saving.

Bonus Activity:

Open a blank document and type the poem:

My short rhyme
first says hi
Then it's time
for good-bye

Enable protection, then try to type something and confirm that protection is enabled. Press **control+alt+m** and add the comment "This poem is a bit long" and note that this is allowed. Remove protection and delete the last line. Close without saving.

15.2 Translating text

It is possible to translate text from one language to another directly in Word. This should be enough to give a reader a broad overview of the text. It is not a substitute for skilled human translation, particularly in legal or other professional documents.

First, select the text to be translated. From the context menu, choose "translate". In Office 2013 and later, a prompt may appear, warning that the text will be sent over the Internet. If a prompt appears, press **enter** to confirm. There is a checkbox on this dialog box to not show it again if preferred.

If office 2016 and earlier, once the translation pane is opened, the focus initially stays in the document itself. Press **f6** to move the focus to the research pane.

In the translation pane, press **tab** to move through the options to the combo boxes for the "from" and "to" languages. Either type the language, or use the arrow keys to select it from the list.

In Office 365, the language does not read correctly. Type the language name, then press TAB to move to the text. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to read the previous object, which is the selected language.

In Office 2013 / 2016, if one of the languages is changed, the focus jumps to the "can't find it" option. In most cases this is not an indication of failure; Word has likely already translated the text. Press **shift+tab** until the focus is on an "insert" button to insert the translated text, or once more to read the translation. If both languages need to be changed, then keep pressing **shift+tab**.

Before using translate, ensure the text is spelt correctly for the language it is being translated from. Short sentences using simple, well known words are less likely to lose meaning than long sentences with complex words.

Note that because the text was selected when the translate feature was activated, if "insert" is chosen, the translated text will replace the original text in the document. To include both translations in the document, copy the text, paste a second copy of it in the document, and select the newly pasted text before translating.

Because the process has changed in Office 365, this activity is divided into an Office 365 version, and an Office 2016 or earlier version. There is one Bonus Activity, which is

below the second version of the activity. Choose the appropriate version below and let's translate some text now:

Activity: Translating text, Office 365 version

1. Open a blank document.
2. Type: "Jack and Jill went up the hill, to fetch a pail of water".
3. Select the whole line of text.
4. From the context menu, choose "Translate". If a dialog appears, read the message, then press **enter**.
5. Press **tab** until the focus is on the text typed and press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to ensure that the current language is correct. If needed, press **shift+tab** then type the language.
6. Press **tab** to the "To" language combo box, and select "German" (if you were originally typing in German, select French instead).
7. Press **tab** to move to the "Insert" button and press **enter** to insert the text into the document (which replaces the previously selected text).
8. Read the translated text.
9. Close Word without saving.

Activity: Translating text, Office 2016 and earlier version

1. Open a blank document.
2. Type: "Jack and Jill went up the hill, to fetch a pail of water".
3. Select the whole line of text.
4. From the context menu, choose "Translate". If a dialog appears, read the message, then press **enter**.
5. Press **f6** to move to the Translation toolbar. The focus moves to the search edit, with the sentence of text in it.
6. Press **tab** until the focus is on the "From" combo box and ensure that the current language is correct (if needed, use the **down arrow** to select a new language. Next, press **shift+tab** to move back to the combo box for the next step).
7. Press **tab** to the "To" language combo box, and select "German" (if you were originally typing in German, select French instead).
8. The focus jumps to the "Can't find it" heading. Press **shift+tab** to the "insert" button and press **enter** to insert the text in the document.
9. Read the translated text, before closing Word without saving.

Bonus Activity:

Open Word and under the heading "English", type: "My uncle's café sells drinks, sandwiches, and cake, but my favourite is the hot chocolate". Make a copy of the text, under the heading "Italian". Translate the sentence into Italian. Repeat to copy from Italian into another language. Finally, translate back into English and compare the final English sentence with the original. Close without saving.

15.3 Saving in other formats

By default, Word saves documents in ".docx" format. This is an updated version of the ".doc" format that older versions of Word used (Word 2003 and earlier). If desired, Word can save in the older .doc format as well as many other formats. Some of the main ones are:

.TXT - Plain text: This is a format which saves only the characters typed. It is readable on any device with any word processor or text editor. Plain text does not save any formatting, such as different fonts, bold or underline. Images, tables, and other objects are not save in plain text. Windows includes a plain text editor called "Notepad" which can quickly open and save plain text.

.RTF - Rich Text Format: This is a basic, cross platform document format. It saves basic formatting such as fonts and bold text and some objects such as pictures. Windows includes a basic word processor called "WordPad" (covered in more detail in the "Basic Training for NVDA" module).

.PDF - Portable Document Format: PDF is a format created by Adobe (who make the most commonly used PDF reader). PDF is designed to ensure documents look identical, no matter what machine or program they are viewed with. Some PDF files are created as images of text which makes them inaccessible to screen readers such as NVDA. The PDF files that Word can save, do include text and so should be accessible. XPS is a format created by Microsoft aimed at replacing PDF.

.HTM / .HTML - HyperText Markup Language: Most web pages are in HTML format. The HTML created by Word is designed to facilitate importing and editing in Word again more than optimisation. One complaint of Word generated HTML is the size of the files created.

When saving a document, from the name edit field, press **tab** to move the focus to the "save as type" field. This drop down list contains the file types mentioned here as well as others. The default type is "Word document (*.docx)".

The "save as" dialog can be accessed directly by pressing **f12**, or from the file menu by pressing **alt+f**, then **a**. When a file is saved in an alternate format, it may not retain all formatting information. For instance, all formatting will be lost if saving in plain text. If loss of such information is likely, Word will display a warning, indicating which information may be lost, prior to saving in the new format.

Let's practise saving a file in a different format now:

Activity: Saving in other formats

1. Open a new, blank document and type a centred heading 1 "Things to do today".
2. Type a list with three bullet points:

Shop
Lunch
Read

3. Insert page numbers in the style "Bold numbers 3" at the bottom of the page.
4. Press **f12** to open the "save as" dialog directly. Word suggests the name "Things to do today.docx".
5. Press **tab** to move to the "Save as type" combo box.
6. Press **p** until "Plain text" is selected, then press **enter** to activate the save button.
7. The File conversion dialog appears, warning that formatting, pictures and objects will be lost. Press **enter** to accept the default options.
8. Using File Explorer, locate the "Things to do today.txt" file and press **enter** to open it. The file opens in Notepad.
9. Read through the file and note the differences, before closing both Notepad and Word.

Bonus Activity:

In a blank document, add a heading "NVDA reading commands". Insert a table with three rows and three columns. Across the first row, type "Command", "Desktop keyboard layout" and "Laptop keyboard layout". Across the second row, type: "Read current line", "NVDA+up arrow" and "NVDA+l". Across the third row, type: "Read from current point onward", "NVDA+down arrow", "NVDA+a". Export to a PDF file. Open in Adobe reader and read the file. Use NVDA's table navigation commands to move around the table.

15.4 Sharing via e-mail

Word provides a file menu option to "share" documents via e-mail. This is more efficient than saving the document, opening an e-mail client and attaching it manually to a message.

From the File menu, select either "Share" or "Save and Send". Press **alt+f**, then "z" in Office 365, or "h" in earlier versions. The process differs depending on the version of Office and whether the document is saved on OneDrive

In Office 365, if the document has been saved to OneDrive, a task pane opens. The focus is on an edit box to type contacts to invite to view the document. To send as an attachment, press **tab** to move to the "send as attachment" link, press **enter** to activate that, then press **enter** again to send a copy. The default email program opens with the document attached to a blank message.

In Office 365, if the document has not been saved to Outlook, the dialog which opens has the focus on a button to save to OneDrive. Press **tab** to move to a "Word document" link and then **enter** to attach the document to a blank message in the default email program.

In Office 2016 or earlier, press **e** for E-Mail. From here, press **a** to send as attachment, **l** to save a copy to your OneDrive account and send others a link to access the file or **f** to send as a PDF file. In Word 2010 the "send a link" option only allows sending a link to a document if the document is saved on a shared network drive or in SharePoint.

Documents can also be shared to a blog by choosing "share" then pressing **b** for Blog and **a** to attach to a blog post. The first time this is done, you are asked to subscribe or log in to a blogging service. The ribbon then changes to a simplified ribbon (as blog entries cannot contain some Word elements, such as track changes or headers and footers). The Home ribbon also contains a Blog category with a "Publish" button and buttons to manage the blog account. The focus returns to the document, which has several blank lines added at the top. The first blank line is a "Post title" field. To add this information, move to the top of the document, and type the title to give the post.

The most common method is to send the file as an e-mail attachment. The next activity walks through the steps but without sending a message. Let's explore how to send a message via e-mail now:

Activity: Sharing via E-Mail

1. Open a new, blank document.
2. Type "Here is a document I can send via e-mail".
3. Press **alt+f** to open the file menu.
4. If using Office 365, press **z**, otherwise, press **h** to select Share.
5. If using Office 2016 or earlier, press **e** to select E-Mail.
6. Press **tab** to either "Word document" or "send as an Attachment" (depending on version).
7. Press **enter** to open a blank email with the document attached. The focus is in the "To" field, ready to type a recipient.
8. This activity doesn't cover sending an e-mail, so Press **alt+f4** to exit the e-mail.
9. Close Word without saving.

Bonus Activity:

Open any document saved in a previous activity. Read through the text. Open the file menu, then choose share and attach the document to an email. If email is setup and connected to the Internet, type a line explaining the document, then send the email to yourself. Read the message when it arrives and open the attachment and read it. Close Word and the email program.

15.5 Mail Merge

Mail Merge is a way of creating a list of personalised letters, such as a mail out to a company's clients to promote a new offer. Mary will get a letter addressed "Dear Mary", James's letter will be addressed to "Dear James", etc. Each letter also has the correct address for that person and any other relevant details.

To start the mail merge, press **alt+m** to open the "Mailings" ribbon, then **s** for start mail merge, then choose the type of mail merge you want to create. The default type of mail merge is a standard letter.

A print mail merge creates physical letters to send via the post. An e-mail mail merge can also be created, which sends personalised e-mails.

A list of names and addresses is needed to create a mail merge. Many companies will have these in a database or spreadsheet. Word can import most common types of files. There is also an option to create a new list specifically for the mail merge, however, this screen is not completely accessible.

To choose the recipients, press **alt+m**, then **r** for "select recipients", then choose whether to type a new list, use an existing list, or choose from Outlook contacts.

To create a new list, instead of using the dialog, open a blank Word document, and type each entry on a blank line. On the first line, type the headings of each piece of information, and separate each with a comma "," or a **tab**. Each "field" or piece of information can contain anything, as long as it is consistent across the whole file. A simple file might contain:

Name, address, loyalty
John Smith, 1 My Street, 5
Mary Brown, 44 The Avenue, 2
Jane Green, 123 This Street, 25

When using an existing file for a mail merge, a standard file open dialog appears. It is important to note that the current location will be "My Data Sources", rather than documents. For a refresher on how to change folders in this dialog, refer to the "Basic File Management" section of the Basic Training for NVDA module.

The next activity will go through the process of creating a list of names, then a blank document to form the mail merge itself. Let's prepare a mail merge now:

Activity: Adding addresses to a mail merge.

1. Open a blank document.
2. Type the following lines (include the comma after the name and after the address):

Name, address, loyalty
John Smith, 1 My Street, 5
Mary Brown, 44 The Avenue, 2
Jane Green, 123 This Street, 25

3. Save the file as "addresses", and close it.
4. Open a new, blank document.
5. Press **alt+m** to open the Mailings ribbon.
6. Press **r** for "Select recipients".

7. Press **down arrow** to "Use an existing list" and press **enter**.
8. In the file open dialog which appears, navigate to the documents folder (or wherever you saved the addresses file, if different).
9. Choose and open the "Addresses" file and leave Word open for the next activity.

Bonus Activity:

Since mail merge is a relatively long process, there are no bonus activities for the intermediate topics. Work through each of the topic activities up to the Completing Mail Merge topic. Once confident with the process, complete the bonus activity following that topic.

15.6 Creating the letter

Once the list of people has been created or opened, the next step is to construct the letter. To personalise the letter, fields such as name and address can be added. There are several "pre-made" fields which can be used, such as an address block. An address block automatically finds name and address information fields and forms it into a standard address. This can be used in a letter or on an envelope without needing to add each piece of information individually.

After pressing **alt+m** for the mailing ribbon, press either **a** for an address block, **g** for a greeting line or **i** to insert any specific field. Alternatively, press **alt+shift+f** to insert a merge field. This opens a dialog and you can arrow through the fields in your address list to choose one to insert.

A greeting line expects something equalling suffix ("Mr", "Mrs", "Miss", etc.), First name, and last name.

Rules can be used to customise the letter for different recipients. In the addresses list for instance, there is a loyalty field. A rule could be used to offer a 5% discount for recipients with less than 10 years loyalty, or a 10% discount for those with longer loyalty. To insert a rule press **alt+m** then **u**, then select the type of rule. For a discount based on years of loyalty, for instance, select "If...then...else". In the dialog which appears, select the field name "Loyalty", Comparison type "Less than" and compare to "10". Insert text "Have a 5% discount". Otherwise insert this text "Thank you, please enjoy a 10% discount".

In the address list created last activity, there is not enough information to add a pre-set greeting line. Let's type the letter and add fields manually now:

Activity: Creating the letter

1. Make sure Word is open from the previous activity.
2. Press **alt+m**, then press **a** to add an Address block. Press **enter** to insert the address block with the default settings.
3. Leave a blank line, then type "Dear", followed by a space.

4. Press **alt+m**, then press **i** to insert and choose the "Name" field.
5. Leave a blank line and type "Thank you for being a client for over"
6. Press **spacebar** and then press **alt+m**, then **i**, then choose the "loyalty" field.
7. Finish that sentence with the word "years." Add the lines:

Kind regards,
Bert
CEO, Widget Co.

8. Read through the letter. If reading by character, or if symbol level is set to "all", NVDA will report that the fields are surrounded by "double left pointing angle bracket" and "double right pointing angle bracket".
9. Leave the document open to return to one more time.

15.7 Completing the mail merge

Once the letter has been written, press **alt+shift+n**, or choose "Finish and merge" from the mailings ribbon, to finish the mail merge. Select what to merge, either the current record, selection, or all records. A new file will be created which has each letter on a separate page, with the names and other details in place of the fields added previously. Read through the file to check everything is ok.

If anything needs to be edited, close this document and the focus will return to the original to edit. Then run the merge again by pressing **alt+shift+n**.

Finally, save or print the document to be mailed. Using the same address list, a new mail merge can be created to print labels or envelopes for the letters.

Let's complete the mail merge now and see the finished letters:

Activity: Completing the mail merge

1. Make sure the document from the previous mail merge activities is still open.
2. Press **alt+shift+n**. A dialog appears asking what to merge.
3. Press **enter** to accept the default option of all records. A new document is created with the merged records.
4. Read through the document to see the merged letters.
5. Press **alt+f4**. Close the document without saving changes.
6. The focus is back in the original document. Read through to confirm.
7. If there are any errors in the content or layout of the document, make changes and repeat from step 2.
8. When finished, close the document without saving.

Bonus activity:

Create a new mail merge. If you use Outlook, select your outlook clients. Alternatively, use the addresses list created for the Mail Merge activity. Type a letter advising that the recycling will be collected each week. If the person's name is "less than or equal" to "L",

their collection day will be Monday, otherwise their collection day will be Thursday. A name "less than or equal" to "L" would be anything in the first half of the alphabet, such as Alan, Belinda, or Jackie. Merge to a new document and view the created letters. Confirm that the collection day is correct for each, then close without saving.

15.8 Mailing list labels and envelopes

Creating labels for a mail merge can be done using the mail merge facility. Before linking the address list to the mail merge, a label merge needs to be setup. To do this, press **alt+m**, then **s**, to start Mail Merge then choose the type of mail merge to do. Letters is the default, so this step was not needed in the activity earlier this section, where the letter was created. From this list, choose envelopes (**v**) or labels (**a** in Office 365, ***l** in earlier versions). A dialog will appear where the size of envelopes or labels can be confirmed. Many labels come with instructions for downloading the information about them automatically into Word.

Activity: Mailing list labels and envelopes

1. Open a new, blank document.
2. Press **alt+m** to open the mailings ribbon.
3. Press **s** to start a new mail merge.
4. Press the **down arrow** to read the options.
5. Select "envelopes" and press **enter**.
6. Press **tab** to move through the options.
7. Press **escape**.
8. Close Word without saving.

Bonus Activity:

Create a mail merge and select "Labels". Read through the fields in the labels dialog. Close without saving.

15.9 Individual labels and envelopes

It is possible to setup and print labels and envelopes individually, outside of a mail merge. The option is chosen from the mailings toolbar. The first two options on the mailing toolbar are "Envelopes" and "labels".

Choosing either of these options opens a similar dialog box to setting up either an envelope or label mail merge. When creating an individual label or envelope there is an edit box to type the address.

The dialog has a page for labels and a page for envelopes. Press **alt+e** to move from labels to envelopes and **alt+l** to move from envelopes to labels.

In both pages, the focus is on the address edit where the information to be printed can be typed.

On the envelopes page, there is an option where a return address can be added. Activating the "options" button enables the exact size of the envelope to be set, ensuring correct placement of the address when printed. To activate the options button, press **alt+o** or press **tab** to move to it, then press **enter**.

The labels page has options to print either a full page of the one label or just a single label. The options button lets you choose the product vendor and product ID number of the labels to be printed on.

Let's explore the label dialog now:

Activity: Individual labels and envelopes

1. Open a blank document.
2. Press **alt+m** to open the Mailings ribbon.
3. Press **tab** until the focus is on "labels".
4. Press **enter** to open the Envelopes and Labels dialog.
5. Press **tab** to move around the dialog until the focus is back in the address edit.
6. Type the address "123 My Street, Anytown".
7. Press **alt+e** to change to the envelopes page.
8. Press **tab** to move around the options on the envelopes page. Note that the address typed on the labels page has been copied over here.
9. Press **escape** to close the dialog, then close Word without saving.

Bonus Activity:

Create an envelope to print to. Add both an address to send the letter to, and a from address. In the options, select "DL" size envelope. Use the "Add to document" button to setup the document to print an envelope. Use **NVDA+numpad delete** (laptop: **NVDA+del**) to confirm the placement of each block of text on the page. Close without saving.

15.10 Sharing review

This section covered some of the features Word has for sharing and distributing documents.

Some of the key concepts included:

- Restricting editing
- Translating to other languages
- Saving in other formats
- Sharing via E-Mail
- Mail Merge
 - Adding or selecting addresses
 - Creating the letter
 - Running the mail merge

- Creating different types of mail merge
- Individual labels and envelopes

Activity: Sharing review

1. Open your Word journal.
 2. Move to the bottom and add the heading 2 "Sharing".
 3. Under a heading 3, type a numbered list on the main steps for creating a mail merge including both letters and envelopes, include at least six steps.
 4. Open the "Things to do today.txt" file saved in the "Saving in other formats" topic and copy the full contents. Paste them at the bottom of the Word journal before closing the plain text file.
 5. Under a heading 3, type: "This is fun. I am learning a lot as my skills improve while writing this journal".
 6. Type a language name as a heading, then paste the text under that. Convert the text to that language. Repeat to another language, and then back to English (so there should be four headings and sentences).
 7. Save the journal as a text file and read it in Notepad.
 8. Share the journal to email. If connected to the Internet, email it to yourself, otherwise close email.
 9. Save the journal and close Word.
-

16 Word Options

The aim of this section is to cover some of the options available in Word to customise it and make it easier to access frequently used features.

Most of the activities in this section are presented slightly differently to the activities in previous sections. These activities navigate to the various settings and options; however, it is left up to you to decide whether to change any settings. If unsure about an option, then it is safer to leave it in its original state.

Goals for this section include:

- Navigating the various options screens
- Understanding where to find different options
- Setting up the options in Word to best meet individual needs and preferences

16.1 General Options

Press **alt+f** to open the File menu. From there, press **t** to open the Options dialog. This dialog contains options to change many aspects of Word, from whether the start screen is shown and what is on the quick access toolbar, to configuring keystrokes and security settings. We have already used this dialog to set user and company information which can then be imported into documents.

This section walks through the categories in the options dialog and highlights some of the key options from each category. The first category which appears when the dialog is opened is "general".

The first four options on this page, under the "User interface" are purely visual. Turning them off may improve performance (especially "enable live preview").

The User Name and Initials information has been covered previously in the fields which can be added to a document, as well as attributing comments and track changes.

Office Background and Theme affect how the ribbon and settings screens appear visually. The "Black" theme may be easier to see for users who can see high contrast text.

"Open E-Mail attachments and other uneditable files in reading view" is worth turning off. When off, documents open in regular print layout directly, so they are easier to read.

"Show the start screen when this application starts" is a Word 2013 and later setting. This shows the start screen where you can either press **enter** for a blank document, or choose to load a template or a recently opened file. When turned off, Word opens directly to a new, blank document.

Let's have a look at the General options now:

Activity: General options

1. Make sure Word is active.
2. Press **alt+f** to open the File menu.
3. Press **t** to activate the Options button.
4. Press **tab** once to move to the first option in the "user interface grouping". Turning off options here may improve performance.
5. Press **tab** until the focus is in the "Personalise your copy of Microsoft Office" grouping. These options can be used to set username, initials and the colours of the ribbon and settings screens.
6. Press **tab** until the focus is on "Open E-Mail attachments and other uneditable files in reading view" and ensure this is unchecked so that documents opened from e-mail and websites will be readable.
7. If using Word 2013 or later, press **tab** to move to "Show the start screen when this application starts". The **spacebar** can be used to turn this setting on or off.
8. Press **enter** to save any changes you have made and return to Word before pressing **alt+f4** to close Word.
9. If you changed the start screen setting, open Word again and note the difference. (Repeat from Step 2 if you want to change the setting back).

16.2 Proofing Options

The second category is the display options which are primarily visual. First, open the options with **alt+f**, then **t**. To move to the "display" options, press **control+tab** once before pressing **tab** to move through the options.

The next category is "Proofing options". After opening the Word options, press **control+tab** twice to move to Proofing. These options control how spelling and grammar check work. For instance, there are options to "Ignore words in UPPERCASE" or "Ignore words that contain numbers". There are also options to set whether Word checks spelling and / or grammar while typing (or only when **f7** is pressed).

The first option in the category, "AutoCorrect options", is a button which opens a new dialog box. This option is covered in more detail in the next topic.

The "Custom dictionaries..." button enables choosing which custom dictionaries to use, as there can be more than one available. The contents of custom dictionaries can also be edited. While spell checking a document, if a word is added to the dictionary, it will go in the custom dictionary.

Let's explore the proofing category of the Word Options now:

Activity: Proofing options

1. Open Word and press **alt+f**, then **t** to open the Word options.
2. Press **control+tab** to move to the "Display" options. The options on this page are purely visual, so if they are useful, press **tab** to move through and explore them.
3. Press **control+tab** to move to the "Proofing" category.
4. Press **tab** to move through the options in the Proofing category until the focus is on the "custom dictionaries..." button and then **enter** to activate this button.
5. Press **alt+d** to edit the custom word list. The focus starts in an edit box where new words can be typed to add to the dictionary.
6. Press **tab** to move to the list of words and **down arrow** to read through them. There is a delete button to remove individual words, or delete all to clear the entire list.
7. Press **tab** to move to the "OK" button and press **enter** to close the dialog.
8. Press **escape** to return to the proofing category of the Word options.
9. Press **tab** to explore the options until the focus is back on "AutoCorrect options" then leave Word open for the next activity.

16.3 AutoCorrect Dialog

The first option in the proofing category is a button to open AutoCorrect options. In the first page of this dialog box you can set or change corrections that Word makes while typing. In [Topic 10.1 Inserting symbols](#), several key combinations were listed to insert special symbols. These included pressing **(**, then **c**, then **)** to insert a "c" in a circle - the copyright symbol. That is an example of AutoCorrect. There are a number of common typos and spelling mistakes that are also auto corrected. Word automatically corrects "hte" to "the", for instance. This list can be edited to remove unwanted rules or add new

rules. This page also has options which control other automatic changes, such as whether the first letter of a sentence or days of the week are always capitalised.

Press **control+tab** to move to the "Math autocorrect" page, where autocorrect options can be set specifically for mathematical formulae. There is also a checkbox to set whether these mathematic corrections work outside of mathematical fields.

Press **control+tab** to move to the "Autoformat as you type" page, which provides options to automatically apply formatting while typing. Options include: automatically superscripting ordinals ("1st", "2nd", etc.) and changing "***bold***" and "_italic_" with real formatting.

Press **control+tab** to move to "AutoFormat". This page appears very similar to "AutoFormat as you type". Options on this page, however, are only applied when the "Autoformat" command is run from the Quick Access Toolbar. The Quick Access Toolbar is covered later in this section.

The final page in the dialog is the "Actions" page. Actions lets you complete common tasks from within a word document. For instance, after selecting a date in the text, an Outlook appointment can be created on that date. If a stock market symbol is selected, financial information about those shares can be searched for.

Let's explore the autocorrect dialog now:

Activity: AutoCorrect dialog

1. Ensure the focus is on the proofing category of the Word options dialog from the previous activity before pressing **alt+a** to open the AutoCorrect options dialog.
2. Press **tab** until the focus is on "Replace: " edit.
3. Press **down arrow** to read through some of the things Word will pick up.
4. Choose one of the items and press **tab** to the "With: " edit, to read what Word will automatically replace it with. Press **shift+tab** to move back to the Replace edit to keep reading down.
5. Press **control+tab** to move to the "Maths AutoCorrect" page and repeat steps 2 - 4 to read through the contents of this page.
6. Press **control+tab** to move to the next page of options.
7. Press **tab** to move through the options.
8. Repeat steps 6 and 8 until the focus is back on the "AutoCorrect" page.
9. Press **enter** to close the dialog and **escape** to close the Word options.

16.4 Save Options

The save options allow customising how and where documents are saved. From the Options dialog (press **alt+f**, then **t**), choose "**save**" (**control+tab** three times).

By default, Word saves a copy of open documents every 10 minutes. If the computer crashes or suddenly loses power, next time Word is started, it will offer to restore the

newest autorecover version of any documents which were open. This is designed so that not too much, if any, data is lost.

The options dialog has an edit box to adjust the time between saving autorecover information. you can type a new value directly or use the **up** and **down** buttons in this edit box to change the value.

The default save location or file format for regular documents can also be changed.

When a document is opened or saved in Word 2010 or older, it displays a standard file open or save dialog to choose the location and name. In Word 2013 and later, the default option is to use the Save and Open tabs of the file menu. These have many of the main options from the older style dialog box but are ordered differently. The dialog box is still available by pressing **f12** for save, or **control+f12** for open, or if the "browse" link is activated on the open & save tabs.

Word can be set to always only use the traditional dialog box by checking "don't show the backstage when opening or saving files".

Let's explore the save options now:

Activity: Save options

1. Make sure Word is open.
2. Press **alt+f** to open the file menu.
3. Press **t** to open the Options.
4. Press **control+tab** until the focus is on the "Save" options.
5. Press **tab** once, the focus moves to the "Save files in this format" combo box.
6. Press **tab** twice to move the focus to the "Save Autorecover information every, minutes" edit.
7. If using Office 2013 or later, press **tab** until the focus moves to the "Don't show the Backstage when opening or saving files" checkbox.
8. Press **tab** until the focus moves to the "Default file location" edit box.
9. Feel free to **tab** around and explore the other options on this page, before pressing **enter** to close the options.

16.5 Language Options

The language options allow you to choose the language(s) Word uses. From the options (press **alt+f**, then **t**), choose "Language" (press **control+tab** four times).

From this screen, new languages can also be installed. There are three groups of languages, the "editing language" used for spell check, the display language used for the interface and the language help is provided in.

While in the list of editing languages, to change the default language, select the desired language, then press **alt+d**. To remove a language, select it, then press **alt+r**. Note that the default language cannot be removed.

To add a new language, select it from the "Add additional editing language" combo box, then pressing **alt+a** to add it. To make the new language the default, press **shift+tab** to the editing languages list, select it and press **alt+d**.

With the focus in either the display or help languages lists, press **tab** to move to the arrow buttons which move the selected language up or down in the list. Press **alt+e** to make the selected language the default in the display language list and **alt+f** with a language selected in the help language list.

Let's explore the language options now:

Activity: Language options

1. Ensure Word is open and in the Options dialog.
2. Press **control+tab** to move to the "Language" options.
3. Press **tab** to move to the "choose editing language" grouping.
4. Press **up** and **down** through the list of installed languages.
5. Press **tab** until the focus moves to the "add additional editing languages" drop down list.
6. Press **tab** twice to move to the display and help language list.
7. Press **tab** until the help language list has focus.
8. Press **tab** to move to the OK button and press **enter** to select the changes.
9. Close Word.

16.6 Advanced options

The next category in the options dialog is "Advanced options". This page has a lot of more advanced or miscellaneous options.

Some that might be of interest:

"Typing replaces selected text". Normally when text is selected, typing anything deletes the selected text. With this option unchecked, typing while text is selected inserts the typed characters prior to the text, which is automatically unselected.

"Use the insert key to control overtype mode". By default, while typing, any text to the right of the caret is moved further right to make room for the text. With this option enabled and overtype mode on, each time a character is typed, the next character to the right of the caret is deleted. If this option is checked and **insert** is the NVDA key, press **insert** twice to activate overtype mode.

"Cut, Copy and Paste" grouping. These options control how text from various sources is treated when pasted.

If pasted text is set to plain text, the setting "Keep bullets and numbering when pasting plain text with the keep text only option" affects how plain text lists are formatted.

After text is pasted, pressing **control** opens a small dialog to select the formatting of the pasted text. This feature can be disabled with the "Show paste options button when

content is pasted" checkbox. There is also an option in this section to use the insert key to paste text.

"Show this number of recent documents" determines the number of documents to keep in the recent list on the File Open pane. "Quickly access this number of recent documents" enables up to nine recent documents to be accessed with a shortcut key sequence. When enabled, press **alt+f**, then a number **1** to **9** to open one of the most recently closed documents.

"Show horizontal scroll bar", "Show vertical scroll bar" and "Show vertical ruler in print layout view" are purely visual options, they do not affect scrolling with the keyboard. Unchecking them however, reduces the number of objects when navigating via object navigation.

"Mailing address" is the address previously covered in [Topic 8.7 Setting document properties](#).

Let's have a look through the advanced options now:

Activity: Advanced options

1. Make sure Word is open.
2. Press **alt+f** to open the file menu.
3. Press **t** to open the Word Options dialog.
4. Press **control+tab** to move to the "Advanced" options.
5. Press **tab** to move to the "Editing Options", particularly: "Typing replaces selected text" and "Use insert key to control overtype mode".
6. Press **tab** to move down to the "Cut, copy and paste" grouping. Particularly note formatting options for pasted text, "Keep bullets and numbering when pasting text with keep text only option" and "show paste options button when content is pasted".
7. Press **tab** until the focus is in the "Display grouping", particularly "Show this number of recent documents" and the show scroll bar and ruler options.
8. Press **tab** until the focus moves down to the "General grouping", particularly the "Mailing address".
9. Press **tab** to move down to the **OK** button and press **enter** to save the settings you have changed and close the Options.

16.7 Customising the ribbon

The next category in the options is "Customising the ribbon". This can also be accessed from the ribbon itself by opening the context menu and choosing "Customize the ribbon". This screen allows changing the layout of the ribbon by adding and removing shortcuts to various features.

The first option is a drop down list "Choose commands from". The selection here affects the items listed in the following "Available commands".

The "Customise the ribbon" drop down is used to select the part of the ribbon which will be edited. The "Ribbon tree view" then shows all the commands currently in that part of the ribbon.

When a command is selected in "Available commands", an "add" button (press **alt+a**) adds that command to the current folder in the ribbon tree view. Conversely, with an item selected in the ribbon tree view, a "remove" button (press **alt+r**) can be used to take that command out of the ribbon.

To create new ribbon tabs, press **alt+w**. To create new groups within the current ribbon press **alt+n**. To rename the current group or tab press **alt+m**.

To reset the ribbon to its factory state press **alt+e**. The customised ribbon can be imported or exported which makes it easy to copy the ribbon setup to another computer.

Items cannot be added to the inbuilt groups (such as the font or paragraph groups of the home ribbon) but new groups can be added to the existing ribbons.

The next activity involves customising the ribbon, then restoring it. When comfortable with the steps, further customisation of the ribbon could be undertaken as an extension of the activity. Let's customise the ribbon now:

Activity: Customising the ribbon

1. Open the customize ribbon category of the Word options.
2. Press **alt+n** to press the "create new group" button, which will create a new group on the home ribbon.
3. Press **alt+m** to rename the group, type "Accessibility" and press **enter**.
4. Press **alt+c** to move the focus to "Choose commands from", choose the "Commands not in the ribbon" and press **tab** to move to the "available commands".
5. Press **down arrow** to find the "Accessibility checker" and press **alt+a** to add it to the custom ribbon.
6. Press **tab** to the "OK" button and press **enter**.
7. Press **alt+h** to open the Home ribbon and press **control+right arrow** to move to the new group. Note that the quick access key for the new icon is **alt+h**, then **y**, then **1**.
8. Open the options again, navigate to the customize ribbon category.
9. Navigate to the "Ribbon tree view", locate the "accessibility" group, and press **alt+r** to remove it.

16.8 Customising Keyboard Shortcuts

One item in the "Customise Ribbon" options which was not covered last topic is "Customise keyboard shortcuts". This option allows selecting any task in Word and adding or changing the keyboard shortcuts associated with it.

From the Customise ribbon category, press **tab** three times to the "customize" button and press **enter**. Alternatively, press **alt+t** from anywhere in this category.

When the Customise keyboard dialog opens, the focus is on the "Categories" list. Press **down arrow** to move through this list to choose a specific tab such as Home or Insert or other groups of commands such as those not in the ribbon. Special items such as fonts, styles or common symbols can also be selected.

Press **tab** to move the focus to the "commands" list. This list will be called "fonts", "styles", "common symbols", etc., if one of those categories is selected. In this list, commands are listed without spaces. For instance, the command to save a file is listed as "FileSave" as one word. Many of these are able to be deciphered once you know there are no spaces between words. For instance, "AcceptAllChangesAndStopTracking" is long but relates to track changes. Some are less obvious, such as "CloseParaBelow". There is a description for each command, however, it is a read only text label. To get to it from the commands list, press **tab** four times to the "Reset All" button. Then press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move the review cursor to the previous object. The description for "CloseParaBelow", for instance, is "Removes extra spacing below the selected paragraph".

Note there are commands in this list that are not found on the ribbon, such as commands to jump between sections, or to toggle a page from portrait to landscape.

From the Commands list, the next item is the "current keys" list. This list has any existing keys listed, such as **control+s**, which is listed as a key for "File Save". For some tasks, there are several, similar commands. For instance, there are over a dozen commands to save the current file, including saving in specific formats and saving with or without using the File Menu "Backstage" pane. Not all commands have keystrokes associated with them.

Press **tab** to move to the "Press new shortcut key". This is an edit box which will accept shortcut keys such as "control+s" or "alt+f4". It is strongly recommended not to use either of those keys as they are already commonly used. To find out whether a keystroke is in use, press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move the review cursor through objects. The item after "Currently assigned to", will indicate whether the key combination in "Press new shortcut key" is available or not. It will either read "unassigned", indicating the shortcut key is available to use, or it will be the item the shortcut key is currently assigned to. If **control+s** was pressed in the "Press new shortcut key" field, for instance, it would read "currently assigned to" then "FileSave".

When the focus is in the "Press new shortcut key" edit box, **tab** must be used to navigate away from this control. Pressing, for instance, **alt+a** will not activate the "Assign" button. While in the shortcut key edit, **alt+a** itself will be treated as another shortcut key to be added. To activate the assign button to save the shortcut, press **tab** to move to the assign button and press **enter**.

Changes made in this dialog can be saved to "normal.dotm" (the default template for blank documents), the currently used template (if different) or the current document only. The default is to save changes to "normal.dotm".

To remove a shortcut, select it in the "current keys" list, then activate the "Remove" button, or press **alt+r**.

Finally, there is a "reset all" button to revert all keys currently assigned to the template or document selected in the "save changes in" combo box.

Let's have a look at these options now and create a keyboard shortcut for the document inspector which was covered recently:

Activity: Customising keyboard shortcuts

1. Open the "Customize Ribbon" page of the Word options.
2. Press **alt+t** to activate the "Customize" (keyboard shortcuts) button and open the "Customize keyboard" dialog.
3. Leave the "File Tab" selected in the "Categories" list, press **tab** to move to the "Commands" list and press **down arrow** to select "DocInspector".
4. Press **tab** to move to the "Press new shortcut key" edit and press **alt+a** as a new shortcut for this command.
5. Press **enter** to activate the "Assign" button and **enter** again to activate the "Close" button then press **escape** to close the options dialog.
6. Press **alt+a**. The document inspector starts. Finish and close the inspector.
7. Repeat steps 1 - 3 above to open the Customize Keyboard dialog and select "DocInspector".
8. Press **tab** to the "Current keys" and select "alt+a" (press **spacebar** or **down arrow**).
9. Press **alt+r** to remove the keystroke (if you want to), then **enter** to activate the close button and return to the Word options.

16.9 Customising the Quick Access Toolbar

The quick access toolbar is the leftmost portion of the title bar. Commands on the quick access toolbar can be accessed by pressing **alt+1** for the first item, **alt+2** for the second item, and so on.

The "quick access toolbar" category of the options is directly after the "customize ribbon", and the page looks almost identical. As with customize ribbon, these options can be also accessed using the context menu from the ribbon.

The "Choose commands from" dropdown sets what "available commands" are listed. To add a command to the quick access toolbar, select it in the available commands, and press **alt+a**.

Customisations to the quick access toolbar can be applied to all documents (the default) or only for the current document.

The "Customize quick access toolbar list" contains the list of current commands in the quick access toolbar. To re-order items, first select the one to be moved. Next, press **tab** to the "Move up" or "Move down" button, then press **spacebar** to activate the button and move the selected command. Remember, the first command in the list will be activated with **alt+1**, the second with **alt+2** and so on.

Let's explore the quick access toolbar options now:

Activity: Customising the quick access toolbar

1. Open the "Quick Access Toolbar" category from the Word Options.
2. Press **tab** to the "Choose commands from" combo box and select "Layout tab".
3. Press **tab** and then **down arrow** to select "Page Setup".
4. Press **alt+a** to add Page Setup to the Quick Access Toolbar.
5. Press **tab** until the focus is on the "Customise Quick Access Toolbar List" (Note that the item before this is named very similarly: "Customize Quick Access Toolbar Combo Box").
6. Use the **up** and **down arrow** keys to move through this list and note how many items there are. If the Quick Access Toolbar has never been customised, then "Page Setup" will likely be the 4th item, so could be activated with **alt+4**.
7. Press **enter** to activate the "OK" button and close the options.
8. Press **alt+4** (change the number as needed if your quick access toolbar is different to default) to open the page setup dialog. Browse the dialog with **tab** before pressing **escape** to close it.
9. Open the Quick Access Toolbar settings and find the "Page Setup" item in the "Quick Access Toolbar List". Press **alt+r** to remove it (unless you wish to keep it in your Quick Access Toolbar).

16.10 Add-ins and Trust Center

The final two sections of the Word Options are "Add-ins" and the Trust Center.

Add-ins are mostly third party tools which work with Microsoft Office. If you have a scanner and OCR program, for instance, it will often come with an add-in to enable scanning directly into Word. Because the 3rd party add-ins available will be different on each computer, they are not covered here.

The Trust Center allows changing the security settings for Word. For instance, protected view can be disabled completely so that documents downloaded from the web initially open in full read / type mode. This can make it easier to read files quickly but can also have security implications. Microsoft recommend not changing those options.

Activity: Add-ins and trust center

1. Open Microsoft Word to a new, blank, document.
2. Press **alt+f** to open the File menu.

3. Press **t** to open the options.
4. Press **control+tab** until the focus is on the "Quick Access Toolbar" category.
5. Press **control+tab** once more to move the focus to "Add-ins".
6. Press **control+tab** again to move the focus to the Trust Center.
7. Press **NVDA+b** to read the dialog box and Microsoft's warning about changing the Trust Center settings.
8. Press **escape** to close the options dialog.
9. Close Word.

16.11 Word Options Review

This section covered many of the options available to configuring Word via the Options dialog box.

Some of the key concepts included:

- General Options
- Proofing Options
 - AutoCorrect dialog
- Save Options
- Language Options
- Advanced Options
- Customising the ribbon
 - Customising Keyboard shortcuts
- Customising the Quick Access Toolbar
- Add-ins and Trust Center

Activity: Word options review

1. Open your Word Journal and create a next page section break at the bottom of the document.
2. Type a heading 1 heading: "Word Options" and underneath, type a heading level 2: "General options".
3. Using the "Subtle emphasis" style, type a centered paragraph on the options available in the "General options". Under a suitable heading 2, and back in normal style text, type a right aligned paragraph on the "Advanced options".
4. Under an appropriate heading 2, create a table (choose the most suitable number of columns and rows). Type four examples from the AutoCorrect screen, including the original text, and the text it will be automatically replaced with.
5. Under a heading 2 heading naming the correct options category, type a paragraph about how to get to the option to show Word's start screen. Link a comment to the paragraph. In the comment, type how to toggle the "backstage" used when opening or saving files.
6. Under a suitable heading 2, type a Journal list including three things you have in the Quick Access Toolbar.
7. Under a heading 2, type a paragraph explaining the difference between "New Tab" and "New Group" in the customize Ribbon options.

8. Type a numbered list outlining the steps required to add a keystroke to "View footnotes".
 9. Save the document and close Word.
-

17 Advanced topics

The aim of this section is to cover a handful of advanced topics and options which were not covered elsewhere, and also to indicate the areas of Word which are not covered in the module.

Goals for this section:

- Customising the Status Bar
- Creating Shortcuts to Documents
- AutoRecover Documents
- Macros
- Topics not covered
- Certification

17.1 Customising the status bar

By default, the status bar shows information about the number of words and pages in a document, the current column, the language being used, and provides controls to change the view or zoom in and out.

Activating each of these controls provides access to related features or more information. The Proofreading section covered this as a way to find out the word count of a document.

The status bar can be customised to remove these items or add new information. If the language is never changed, for instance, that item could be removed and other information, such as the line number or section number could be added.

To change the information displayed in the status bar, press **f6** from within the document to move the focus to the status bar, then press the **applications key** to open the context menu. Use the **arrow** keys to move through the list and press the **spacebar** to toggle whether items are checked or not. Some items may not display information all the time, even if they are checked in this list. Information about upload status, for instance, will only be displayed while items are being uploaded.

Let's have a look at the items in the status bar now:

Activity: Customising the status bar

1. With a blank document open, press **f6** to move the focus to the status bar. If there are extra toolbars open, **f6** may need to be pressed more than once.

2. Press the **right arrow** and move through the items in the status bar until the focus is back on the first item (page number by default).
3. Press the **applications key** to open the context menu.
4. Press the **down arrow** to move through the list. To enable or disable an item, press **spacebar**. NVDA will report "Checked" if an item is enabled.
5. Press **escape** to close the menu and return to the document.
6. Press **NVDA+end** (laptop: **NVDA+shift+end**) to read the status bar without moving focus.
7. Press **f6** to move the focus back to the status bar.
8. Repeat from step 3, if needed, to change any additional items.
9. Close Word.

17.2 Creating Shortcuts to Documents

If a document is used regularly, launching it directly from the start menu, desktop or taskbar can be worthwhile. This can be done from within File Explorer. Key skills in using File Explorer are covered in Section 8 ("Basic File Management") of the "Basic Training for NVDA" module.

Briefly, press **windows+e** to open File Explorer. The focus starts in the file list view. Press **shift+tab** to move back to the tree view. Use the tree view to navigate around folders to find, for instance, "Documents" and press **enter** to load the selected folder. Press **tab** to move to the file list and use the arrows to select the needed file.

Once the desired file is selected, press **enter** to launch it directly (if it is a Word document, it will open in Word, for instance). With the file selected, a shortcut can be created on the desktop to launch it directly. From the context menu, choose "Send to" by pressing **n**, then choose "Desktop (create shortcut)".

The desktop shortcut can be further edited, to add a keystroke to launch the file directly. To do this, first press **windows+m** to minimise to the desktop. Next, use the arrows or press the first letter of the name to find the shortcut. Next press **alt+enter** to open the shortcut properties. The exact properties available vary between different items on the desktop. The regular navigation and editing keys can be used to move around the dialog box.

Let's create a shortcut on the desktop for the Word journal now:

Activity: Creating shortcuts to documents

1. Press **windows+e** to open File Explorer.
2. Press **shift+tab** to move the focus to the folder tree view.
3. Use the **down arrow** to locate the "Documents" folder (or the folder you saved your Word journal in, if different) and press **enter** to load the folder.
4. Press **tab** to move to the file list, then use the **down arrow** to locate your Word journal file.
5. Open the context menu and press **n** to choose "Send to" (you may need to press **n** more than once).
6. Choose "Desktop (create shortcut)".

7. Press **windows+m** to minimise everything and move the focus to the desktop.
8. Use the **arrow keys** to locate the shortcut to your Word Journal on the desktop.
9. Press **enter** to open the document directly in Word, browse it then close Word.

17.3 AutoRecover documents

[Topic 12.4 Save Options](#) touched on the AutoRecover option which regularly saves a copy of open documents. If the computer crashes or loses power unexpectedly, the next time Word is started to a blank document, a pane will appear. This pane offers to reopen either the last AutoRecovery version, or the last manually saved version of any documents that had been open. To get to this pane, press **f6**.

When a document is closed without saving changes, Word also keeps a copy of this document that can be recovered if you change your mind.

These AutoRecover files can be accessed from the Info tab of the File menu. Press **alt+f**, then **i** to access the Info tab. Press **r** to move to "Manage document". Press **enter** to open "Recover unsaved documents". This displays a standard file open dialog with the focus on the Microsoft Office Unsaved Files folder. The focus is in the file name edit. Press **shift+tab** to move to the list of unsaved files and **down arrow** through it to locate a file to recover. Unlike regular documents, unsaved documents have a ".asd" extension, rather than ".docx". When a .asd file is opened, a line appears above the document with the "recovered unsaved file grouping" prompting you to save the file.

Let's have a look and see if there are any unsaved files now:

Activity: AutoRecover Documents

1. Open Word to a new, blank document.
2. Press **alt+f** to open the file menu.
3. Press **i** to open the Info tab.
4. Press **r** to open to the "manage document" grouping.
5. Press **enter** to activate "Recover unsaved documents".
6. Press **shift+tab**. If NVDA reads "Header", press **shift+tab** again.
7. Press **down arrow** to read through the files (if any) and press **enter** to open one.
8. Read through the document, then press **f6** to move to the "Recovered unsaved files" grouping and read the information there.
9. Save the document if desired, and close Word.

17.4 Macros

Macros can be used to record a series of steps which can be "played back" to repeat the steps again. This can make it easy to perform complex actions on a document without needing to repeat the same steps regularly.

To record a macro, press **alt+w** to open the View ribbon, then press **m** for Macros and **r** to record a macro. The record macro dialog appears with the focus in the Macro name edit. The default name is "Macro1". It is usually worth renaming this to something more meaningful. Note that macro names can only contain letters and numbers.

Once a name has been typed for the macro, press **enter** to start recording, or press **alt+k** to assign a keyboard shortcut to the macro so it can be easily invoked. To assign a keyboard shortcut, the "Customize keyboard" dialog appears, with the focus directly in the "Press new shortcut key" edit, ready to press a shortcut.

Once **enter** is pressed to start recording the macro, the focus returns to the document. Anything done from this point will be recorded as part of the macro, including typing, interacting with the ribbon, or pressing shortcut keys to launch features directly.

Press **alt+w**, then **m**, then **r** to stop recording.

Let's create a simple macro now which creates a heading for a poem:

Activity: Recording a macro

1. In a new, blank document, type the following lines:

Coffee magic bean
Help me start my day
Then I will be keen
To go on my way

2. Press **alt+w** to open the View ribbon, then press **m** for Macro then **r** to record a macro.
3. Type "Ode" as the macro name and press **enter** to start recording.
4. Copy the first word in the document ("Coffee").
5. Add a blank line before the start of the poem.
6. Type "An ode to" and then paste the text you copied.
7. Select first line "An ode to Coffee" and set it to heading level 1, then press **control+end** to move the focus to the end of the document.
8. Press **alt+w**, then **m**, then **r** to stop recording.
9. Save the document as "ode to coffee" and close Word.

17.5 Running macros

If a macro has a shortcut key associated with it, that key combination can be used to run the macro again. This is useful for macros you use often.

Macros can also be run from the "Macros" dialog. Press **alt+f8** to open the Macros dialog directly, or **alt+w**, then **m**, then **enter** to open the dialog. From here, use the **arrow** keys to browse the available macros and press **enter** on any macro to run it.

Also from this dialog, new macros can be created and existing macros can be deleted or edited.

In order to create a new macro, move to the "Macro name" edit box and type a new name before pressing the "create" button.

If the "edit" or "step into" macro buttons are chosen, a Visual Basic editor will open with the underlying code for the macro. Unless you are familiar with Visual Basic, it is best to avoid these features.

After running a macro, if **control+z** is pressed, it will undo the last action from the macro. Each step of the macro can then be undone individually.

Let's type a new poem and run the macro created last activity now:

Activity: Running a macro

1. Create a new, blank document and type the following lines:

Bed where I sleep
Blanket so warm
As I count sheep
Safe from the storm

2. Press **alt+f8** to open the macro dialog.
3. Press the **down arrow** to select "ode" (if it is the only macro, it will already be selected) and press **enter** to run this macro.
4. The macro runs almost instantaneously and the focus returns to the end of the document. Press **control+home** to move to the top and read through the text. Note that the first line is now "An ode to bed" in heading 1.
5. Create a new macro to add a page number footer, make the poem itself "Intense emphasis" and center the whole document.
6. Save the document as "ode to bed" and close it.
7. Open the "ode to coffee" document you saved last activity and run the new macro on it.
8. Read through the document and make sure the macro has worked as expected.
9. Save the "ode to coffee" document and close Word.

17.6 Topics not covered

There are a couple of features in Word which have not been covered in this module.

From the File menu: Account; If Office is signed into a Microsoft Account, the details can be viewed and setup. If using Office 365, a Microsoft account needs to be signed into in order to receive updates and continue using Office beyond an initial trial period.

From the File menu: Feedback; Word 2016 also includes a new "feedback" item. This works very similarly to the feedback hub in Windows 10. It provides a way of sharing details about problems in Word with Microsoft as well as proposals for feature enhancements.

Home Ribbon: text effects, borders and shading; These are all purely visual options. Text effects can be used to add shading, outline, reflection or other effects to text. Borders add lines around selected text or paragraphs. Visually this looks similar to using a table. Shading enables the page behind the selected text or paragraphs to be coloured.

Insert Ribbon: Store and add-ins; The store can be used to download and manage add-ins for word directly from Microsoft.

View Ribbon: Window options; These options allow can be used to view several parts of the one document, or several documents on screen at once. They are purely visual options.

Tell Me; Word 2016 has a new search option called "Tell me". Press **alt+q** to move to the tell me edit box, then type the name of a word feature. Use the **down arrow** to move through the options related to what was typed and press **enter** to activate an item.

Developer options; Word has a hidden "Developer" ribbon. Open the customize ribbon screen of the options, move to the "ribbon tree view", then to "Developer" and press **spacebar** to enable this ribbon. As well as some options which are repeated elsewhere, such as macros, the Developer ribbon contains the elements to create forms, such as check boxes and combo boxes.

17.7 Certification

NVDA Certification is a new, exciting program which allows participants to demonstrate and confirm their in-depth knowledge of NVDA.

This program is particularly suited to:

- Trainers
- Technicians
- Accessibility professionals
- Add-on developers
- Dedicated users of NVDA who wish to demonstrate their proficiency.

It is a series of levels of certification. These correspond to the training modules available. The first is based around the "Basic Training for NVDA" module. The Word certification is based on the topics covered in this module.

Completing the online exam is free, and once passed, a certificate can be purchased. Purchasing a certificate, also lists you as an NVDA Certified Expert on the certification page. For more information, or to sit the certification exam, go to:

<https://certification.nvaccess.org>

**This is the end of the Microsoft Word
with NVDA module.**

Microsoft Excel with NVDA



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Empowering lives through non-visual
access to technology

Microsoft Excel with NVDA

Release Date: 12 June 2017

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1 Introduction

This "Microsoft Excel for NVDA" module covers creating and using spreadsheets with NVDA. It introduces Microsoft Excel and features of NVDA which are specific to Excel. The module also builds on the skills gained in the "Basic Training for NVDA" module.

1.1 What is Microsoft Excel?

Microsoft Excel, often shortened to "Excel", is a "Spreadsheet" program. Excel is part of the Microsoft Office suite of programs.

Programs such as WordPad display an entire file in one block of text; presented on one, or many pages. Excel displays information as a table, with many "cells", laid out in rows and columns. Each cell may contain text, with formatting, like text in a WordPad document. Cells can also include formulas to calculate information. Formulas may include references to other cells, mathematical equations, and combinations of instructions. Excel is often used in accounting, for tasks such as calculating sales or budgets. Excel is also used where the information is in a table or grid, such as creating a calendar, or even a house plan.

1.2 Goals

This module comprises the following sections:

- Getting Started
- Excel Essentials
- Working with Worksheets
- Basic Formulas
- More Formulas
- Formatting

- Manipulating Data
- Finishing and Distribution
- Advanced

Each section begins with goals and ends with related review activities.

1.3 Pre-requisites

NVDA needs to be running on your PC. If using a Braille display, ensure to have it set up before starting this module. The "Basic Training for NVDA" module has instructions on installing and setting up NVDA.

You must be comfortable typing and able to locate keys on the PC keyboard. Required knowledge also includes the skills covered in the "Basic Training for NVDA" module. In particular, revise the following "Basic Training for NVDA" sections, before starting this module:

- 6 Editing Documents and
- 7 Document Formatting.

This module assumes the following minimum requirements:

- Windows version 7 through to Windows 10
- Microsoft Office 2010 or later.

NVDA works on older versions of Windows and Office. Many of the steps covered in this material work on earlier versions. This module uses Windows 7 and Office 2010 as base versions for clarity of description.

2 Getting Started with Excel

The aim of this section is to become familiar with Excel and create basic spreadsheets. The section recaps key skills covered in the "Basic Training for NVDA" Module.

Goals for this section:

- Starting Excel
- Text editing recap
- Text formatting recap
- Saving a workbook
- Opening a workbook
- Creating a new workbook
- Printing a workbook
- Protected view
- Reading mode

2.1 Starting Excel

Launch Excel just like any other program, either from the Desktop, Start Menu or taskbar. To open Excel from the Start menu, press the **Windows key** and then type "Excel". Ensure the focus is on Excel and then press **enter**. The shortcut also includes the version number, such as "Excel 2010" or "Excel 2016".

The "Basic Training for NVDA" module covered the Start menu. Refer to Chapter 3: "Getting Started with Windows" and Chapter 9.3: "The Windows taskbar".

If using Office 2010, once Excel loads, the focus starts in a new, blank workbook.

In Office 2013, Office 2016, or Office 365, the focus is on Excel's start screen when the program starts. The Excel start screen lists blank workbook templates and recently opened workbooks.

The term "spreadsheet" is generic, as in "We keep sales for each month in a spreadsheet". "Workbook" refers to Excel, as in "Open the monthly sales workbook in Excel".

Activity: Starting Excel

1. Press the **Windows** key to open the Start menu.
2. Type:

Excel

3. Ensure "Excel" is the current search result. If Excel is not the first search result, press the **down arrow** to select Excel.
4. Press **enter** to start Excel. The focus is on the Excel Start screen. Leave Excel open to return to next activity.

2.2 Exploring the Excel Start Screen

This topic covers using Excel's Start Screen in Excel 2013 and later. Users of Office 2010 may skip to the next topic: Writing Text.

The Excel start screen provides access to templates and recent workbooks. The focus is on the blank workbook option. Press **enter** to choose this option.

Pressing the **arrow keys** moves through the built-in template options. Templates include a loan comparison calculator, family budget, sales invoice and attendance tracker. Templates are covered later in this module.

Existing workbooks are available in the Recent Workbooks list. Press **tab** to move the focus to the recent workbooks list. Next, press the **arrow keys** to choose a recently closed workbook and **enter** to open it. The "Open Other Workbook" link after this list, brings up an open dialog to open other workbooks.

The last information on this screen identifies the current Microsoft account or a link to sign in. Unless using an Office 365 subscription, a Microsoft account is optional.

Let's explore Excel's start screen now:

Activity: Exploring the Excel start screen

1. Ensure that Excel is active, with the Excel start screen open from the previous activity.
2. Press **NVDA+tab** to read the item with focus. NVDA identifies the current item which is "Blank workbook".
3. Press **right arrow**. The focus moves to the first template.
4. Keep pressing the **right arrow** to explore the templates available.
5. Press **tab** to move the focus to the latest of the recent workbooks. If the focus moves to "Open Other Workbooks", there were no recent workbooks, in which case, jump to step 7.
6. Press the **down arrow**. The focus moves through recent workbooks until reaching the "Open Other Workbooks" link.
7. Press **tab**. The focus moves to either a link to the signed in Microsoft account or a "learn more" link.
8. Press **tab** again. The focus moves back to the blank workbook button.
9. Press **enter** to open Excel with a blank workbook. Leave Excel open, ready to explore next activity.

2.3 The Excel Window

Select a blank or recently opened workbook to load it in the main Excel window. The Excel window has a similar layout to other programs. The title bar shows the name of the current file and the name of the program across the top of the window. An Excel file is called a "workbook" in the same way that a file used by Microsoft Word is referred to as a "document". Underneath the title bar, are ribbon titles and current ribbon. The majority of the screen contains the workbook itself. At the bottom of the window is the status bar which displays information and messages. The status bar updates when Excel is doing something, such as saving a file. When Excel is not performing a task, the status bar text reads "Ready". The status bar also notes whether any macros are running, and the current view settings.

The default name for a blank workbook is "Book1". If creating a second blank workbook, Excel calls this second workbook "Book2". Create a blank workbook from within Excel by pressing **control+n**.

A single workbook may have multiple "worksheets", called "sheets". A worksheet is the main working area. When a new workbook is created, the first sheet, called "Sheet 1", has focus. Section 4 will introduce working with multiple worksheets. Excel 2010 workbooks start with three sheets. Later versions of Excel start with one sheet. Pressing **NVDA+tab** reads the current focus. NVDA reads the position in the worksheet as a letter and number, called coordinates. Before covering coordinates, let's explore the main parts of the Excel window now:

Activity: The Excel window

1. Make sure Excel is open with a blank workbook from the previous activity.
2. Press **NVDA+t** to read the title. NVDA reads "Book1 - Excel".
3. Press **alt** to move the focus to the ribbon. The focus starts on the "Home" tab.
4. Press **tab** to move through the first few items on the ribbon.
5. Press **alt** to leave the ribbon. NVDA reports that the focus is back on "Sheet1", in the cell "A1".
6. Press **NVDA+tab** to read the focus. NVDA repeats the current focus.
7. Press **NVDA+end** (laptop: **NVDA+shift+end**) to read the Status bar. NVDA reports that Excel is ready, no macros are in use and the current view settings.
8. Press **alt+f4** to close Excel.

2.4 The Excel Ribbon

Like other programs in the Microsoft Office suite, Excel has a ribbon. The ribbon contains eight tabs. These tabs are:

- File: Options for opening and saving workbooks
- Home: Commonly used commands
- Insert: Pictures, charts and other items
- Page Layout: Colour themes and printing options
- Formulas: Calculations and functions to manipulate data
- Data: Sort, filter and other information tools
- Review: Options to check and finalise workbooks
- View: Visual settings

It is possible that more tabs may be present. When working with pictures, charts or other items, custom tabs appear with relevant features.

Interacting with Excel's ribbon is the same as navigating the ribbon in WordPad. Press **alt** to go to the ribbon or **alt+letter** to go to a specific ribbon tab. Use **control+arrows** to move between sections in the current ribbon. Press **tab** to move between items in the current ribbon section. Press **enter** to activate the current item. While navigating, NVDA announces the keys to activate the current item. Shortcut keys can be a quicker way of activating an item than the ribbon, particularly if that item is used regularly.

Some items are "toggles". Pressing either the button on the ribbon or the shortcut key once turns a feature on. Pressing the button or shortcut key a second time turns that feature off. Bold is an example used in the Basic Training for NVDA module. Navigating to the button on the ribbon indicates the current state of that feature. NVDA reports whether a button is "pressed" or "not pressed".

Another item on the Ribbon is "Tell me". If you cannot remember where to locate a feature in the ribbon, press **alt+q** to move to the "tell me" edit. In "tell me", type the name or action of a feature. Press the **down arrow** key to move through the options. "Tell me" works like the search feature on the Windows Start Menu. Once the desired feature is selected, press **enter** to activate it.

The next activity uses the "wrap text" feature, which toggles what happens when text is too long to fit in a cell. Let's practise navigating around the ribbon in Excel now:

Activity: The Excel ribbon

1. Press **Windows**, type **excel** and press **enter** to start Excel.
2. Press **alt** to move the focus to the ribbon. The focus starts on the "Home" tab.
3. Press the **right arrow** to navigate through the ribbons, until the focus returns to the "Home" tab.
4. Press **control+right arrow** to move between the groupings on the ribbon. Stop when the focus gets to "Alignment".
5. Press **tab** to navigate the options in the Alignment grouping until the focus is on "Wrap text". NVDA reports the description and shortcut key and notes the state of the button.
6. Press **alt** to leave the ribbon and return to the worksheet.
7. Press **alt+h** then **w** to toggle the Wrap Text feature.
8. Use the navigation keys from steps 2 to 5, to locate the "wrap text" button on the Home ribbon. Note whether the button is pressed or not pressed.
9. Press **enter** to activate the button. Leave Excel open to return to next activity.

2.5 Moving Around Cells

Most of the Excel screen is a grid, called a worksheet. Excel identifies columns by letters, starting with "A" on the left. The second column is "B" and the third column "C". Excel identifies rows by numbers, starting at the top row, numbered "1". The second row is "2" and the third row "3". Each cell has a letter and number reference using these references. Cell "D3" is in the fourth column from left, the third row from the top. "A12" is in the first (leftmost) column and the twelfth row. The coordinates reference is always column, then row.

Use the following navigation keys to move around cells:

- **left** and **right arrows**: move left or right one column
- **up** and **down arrows**: move up or down one row
- **control+home**: jump to the first cell (A1)
- **control+end**: jump to the last row and column used

Let's move between cells now:

Activity: Moving around cells

1. Make sure Excel is open from the previous activity. If Excel is not open, use the instructions in step 1 of the previous activity to open it.
2. If using Office 2013 or later, press **enter** to create a new, blank workbook.
3. Press **NVDA+tab**. NVDA reports "Cell A1".
4. Press **right arrow**. NVDA reports "B1".
5. Press **down arrow**. NVDA reports "B2".

6. Use the **arrow keys** to move to "D6".
7. Press **control+home** to jump back to "A1".
8. Press **alt+f4** to close Excel.
9. A dialog appears asking "Would you like to save your changes to 'Book1'?". Press **n** to choose "do not Save".

2.6 Typing Text

When the focus is on any cell, any text typed stays in that cell. Once finished typing text, press **tab** to move to the next cell to the right.

Press **enter** to jump to the next line. The focus moves down one line and left as many times as **tab** was pressed on the previous line. To fill a row with data, press **tab** between each cell, then **enter** at the end to move to the cell below the first cell.

A cell may have text which is wider than the size of the cell. When navigating, NVDA reads the text and reports "overflowing" if it is wider than the cell. Visually, the text in that cell continues into the cells to the right as needed. If there is text in the cell to the right, NVDA instead reports "cropped".

Overflowing or cropped text is still there, it is not all visible either when printed or on screen. There are strategies for overcoming this situation covered throughout this module.

Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the contents of the current cell again. Having NVDA read the current cell again may be useful when navigating between cells.

Let's practise entering data and navigating now:

Activity: Typing text

1. Open Excel to a blank workbook.
2. Use the **arrow keys** to navigate to cell C3.
3. Type "Hello" and press **tab**. The focus moves to cell D3.
4. Type "typing test text into excel cells" and press **TAB**. The focus moves to cell E3.
5. Type "last test" and press **enter**. The focus moves to cell C4.
6. Use the arrow keys to return to cell D3 and note that the text is "cropped".
7. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the contents of the current cell again.
8. Press **enter**. The focus moves to cell D4 because **tab** was not pressed on the previous row.
9. Close Excel. When prompted to save changes, press **n** to close without saving.

2.7 Saving a Workbook

The concept of saving files should be familiar by now. The process varies depending on the version of Office in use.

In Excel 2010, saving a workbook for the first time brings up a "Save as" dialog, with the focus in the name field.

Excel 2013 and 2016 use a "Save as" tab in the file menu. The Save as tab has most of the same information as the traditional dialog box. The dialog box is available from the "Browse" or "More Options" buttons.

It is possible to turn off the "Backstage" and only use the traditional dialog box. The setting for the "Backstage" is in the "Save" category of Excel's options.

As with other programs, the critical information needed is a name for the file and a location to save it. This module uses the default "Documents" folder. If using a shared computer, use "Browse" and save workbooks on a memory stick to ensure they are not lost. "Section 8: Basic File Management" of "Basic Training for NVDA" covers memory sticks.

To use the Save function, press **control+s**. When saving a workbook for the first time, the Save As tab or dialog opens. For an existing workbook, **control+s** saves any changes made, without prompting.

The next activity involves saving a workbook to use throughout this module as a journal. The workbook will record details of some basic features of Excel. The review activity at the end of each section will add more to the journal to form a reference. Let's create a journal now:

Activity: Saving a workbook

1. Open a new, blank workbook in Excel.
2. Write "The Excel Journal" in cell A1.
3. Navigate to cell A3.
4. Write a line on how to navigate between cells.
5. Press **enter** to move to A4. Write a line on what the numbers and letters mean when referring to cell locations.
6. Press **control+s**. In Office 2010, this brings up the Save As dialog. In later versions, it brings up the Save As tab.
7. If using Office 2013 or 2016, press **tab** until the focus is on the "Enter file name edit" field. If using Office 2010, the focus is already on the name edit.
8. Type "Excel Journal" and press **enter** to save the file.
9. Press **alt+f4** to close Excel. Because there are no new changes to save, Excel closes without prompting to save the file again.

2.8 Opening a Workbook

Opening a workbook behaves much like saving. Press **control+o** to open a dialog or tab like the one used by the save feature. If using Office 2013 or 2016, this tab also provides quick access to a list of recently used workbooks. In Office 2010 press **alt, f**, then **r** to get to recent workbooks. After choosing a file, press **enter** to open it. The file opens, and the focus is the start of the workbook.

Let's open the journal file saved last activity:

Activity: Opening a workbook

1. Open Excel to a blank workbook.
2. Press **control+o**. The "Open" dialog or tab appears.
3. If using Office 2013 or 2016, press **tab** until the focus is in the "Recent Workbooks grouping". NVDA reports the name of the most recently used workbook. Go to step 5.
4. If using Office 2010, press **shift+tab** until the focus is on the "Items view list".
5. Press **down arrow** to move through the files. Find the "Excel journal" saved last activity.
6. Press **enter** to load the file.
7. Use the **down arrow** to move down and read the instructions written last activity.
8. In A5, write an instruction on how to use **tab** and **enter** while typing text in cells.
9. Save and close the file.

2.9 Protected View

Excel uses "protected" view to display workbooks from sources which may be dangerous. Risky sources include those received as e-mail attachments or downloaded from websites. Protected view disables editing and prevents any malicious code in downloaded workbooks from running.

If you did not request the file, for instance, if it was an attachment to an unsolicited e-mail, it is safer not to open it at all. Otherwise, with the file open in protected view, use the arrow keys to read the cells. Confirm the contents of the file before enabling editing.

If you trust where the file came from, you can enable editing to use the workbook as normal. With the file open in Excel, press **f6** to move the focus to the "Protected view grouping". From this grouping, first press **right arrow** to go to the "Enable Editing" button. Next, press **enter** to activate the button and enable editing of the workbook. The workbook now has full editing and reading ability.

The next activity involves downloading a workbook from the NV Access site. Downloading the file from the Internet means Excel opens it in protected view. Review Section 10 of the Basic Training for NVDA module to brush up on Internet skills. The instructions below use the Internet Explorer web browser, which comes with Windows. If using another browser, such as Firefox, then alter step 1 to start that browser instead. Let's practise on a workbook from the NV Access website:

Activity: Opening a protected view workbook

1. Open Internet Explorer (press **Windows**, type "Internet", then press **enter**). Load the page at [<https://www.nvaccess.org/trainingfiles/>] (<https://www.nvaccess.org/trainingfiles/>)
2. Locate the "protected_workbook" link and choose "Save Target as" from the context menu. Next, press **enter** to save the workbook to the "Downloads" folder.
3. Press **f6** to move to the alert notification. Next, press **enter** to activate the "open" button.
4. The folder opens with the "protected_workbook" file selected. Press **enter** to open the workbook. The workbook opens in Excel in Protected view.
5. Use the **arrow keys** to read the workbook.
6. In any cell, type "hello", then press **tab** to move to the next cell and **shift+tab** to move back to the cell. NVDA reads the original contents of the cell.
7. Press **f6** until NVDA reads "Protected View".
8. Press **tab** until the focus is on the "Enable Editing" button. Press **enter** to activate the button and enable editing.
9. Close Excel. If prompted, do not save changes.

2.10 Getting Started with Excel Review

This section covered basic Excel features. It also refreshed some of the commands from the Basic Training for NVDA module. Some of the key concepts in this section included:

- Starting Excel
- Exploring the Excel start screen
- Moving around cells
- Understanding cell references
- Typing text
- Saving and opening files
- Opening files in protected view

Activity: Getting started with Excel review

1. Open the Journal workbook, created in the "Saving a Workbook" topic.
 2. Move to cell A7.
 3. In A7, describe a cell which is "cut off", then press **tab** to go to B7.
 4. In B7, write what "overflow" is and when NVDA might announce this, then press **enter** to move to A8.
 5. In A8, explain "Protected View". Include steps to turn protected View off and when protected view is useful.
 6. Move to cell A10 and describe how to start Excel and get to a blank workbook.
 7. Move to cell A11 and list three things found in the save as tab.
 8. Save the workbook.
 9. Close Excel.
-

3 Excel Essentials

The aim of this section is to cover entering and editing text in cells.

Goals for this section:

- Overwriting and editing text
- Copying text
- Copying cells
- Using row and column headers
- Inserting cells
- Deleting cells
- Adding and clearing headers
- Working with rows and columns

3.1 Overwriting Cell Contents

When the focus moves to a cell with text, any new text typed overwrites the original contents of the cell. The text is not selected with shift before being overwritten. Overwriting is useful for changing all the text in a cell.

Press **escape** while typing, to cancel editing. Cancelling editing restores the original contents of the cell if any. As in other programs, press **control+z** to undo the last action. Undo can be useful where a cell is overwritten, and the focus has already moved out of the cell. See "Using Undo" in topic 6 of the Basic Training for NVDA module for more revision of the undo command.

Activity: Overwriting cell contents

1. Open a new, blank workbook.
2. Type "Kitten purrs" in cell A1 and "Puppy barks" in cell C3.
3. Move to cell A1.
4. Type "Bird tweets" and press **tab**.
5. Press **shift+tab** to return to cell A1. Note step 4 overwrote the original text.
6. Press **control+z** to undo the last action.
7. Press **NVDA+up arrow** (laptop: **NVDA+I**) to read the current cell. NVDA reads the original "Kitten purrs" contents.
8. Move to cell C3 and overwrite the contents with the words "Bunny hops".
9. Save the workbook as "Editing text" and close Excel.

3.2 Editing Text

It is possible to edit the text in a cell without overwriting it. To edit text, press **f2** to go into edit mode. NVDA reads the contents of the cell. The focus moves to the end of the text in the cell. Editing text in a cell is the same as editing any other text fields.

Navigation keys, such as **arrow keys**, move by letter, and **control+arrows** jump by word. Press **home** to go to the start of the cell contents and **end** to go to the end of the cell contents. Press **backspace** to remove the character to the left of the cursor. Use

delete to remove the character to the right of the cursor. Press **control+delete** to remove the word, or part word, to the right of the cursor.

When finished, press **tab** to move the focus to the next column, or **enter** to go to the next row. To cancel editing the cell, press **escape** to keep the original contents.

Changes to a cell can be saved without moving to a new cell. Press **control+enter** to save changes to a cell, and read the new value cell without moving.

Activity: Editing text

1. Open the "Editing text" workbook, saved last activity.
2. Navigate to cell B6 and type "The quick brown fox jumps over the lazy dog" and press **enter**.
3. Navigate to cell A1.
4. Press **f2**.
5. Use navigation and editing commands to change the word "purrs" to "pounces on the dog".
6. Navigate back to cell B6.
7. Press **f2**, then change the word "jumps" to "leaps".
8. Read both A1 and B6 again. Ensure A1 reads "Kitten pounces on the dog", and B6 reads "The quick brown fox leaps over the lazy dog".
9. Save the "Editing text" workbook and close Excel.

3.3 Edit and Enter Modes

The previous topics have covered two different ways of editing text in cells. While navigating between cells, Excel is in Enter mode. Typing text overwrites the contents of the current cell. Press **f2** to switch to edit mode to change text within a cell. While editing, the navigation keys move around the text in the current cell. Press **f2** a second time to return Excel to enter mode without moving the focus from the current cell.

In edit mode, the navigation keys move around the text in the current cell. In enter mode, the navigation keys move between cells.

When editing a cell, the first item in the status bar advises whether Excel is in "edit" or "enter" mode. Let's practise editing and changing modes now:

Activity: Edit and enter modes

1. Open Excel to a blank workbook.
2. In cell B2, type "I typed this text". Do not press any other keys.
3. Press **NVDA+end** (laptop: **NVDA+shift+end**) to read the status bar. The first item NVDA reports is "Cell mode: Enter".
4. Press **home**. The focus moves to the start of this row of cells, to A2.
5. Move back to cell B2. Press **f2** to go into edit mode. NVDA reports the new mode.
6. Press **home**. The focus moves to the start of the text in this cell.

7. Press **NVDA+end** (laptop: **NVDA+shift+end**). NVDA reports "Cell mode Edit".
8. Edit the text to read "I edited this text" before pressing **tab** to move to cell C2.
9. Navigate back to B2 and read to confirm the text has changed, then close Excel without saving.

3.4 Copying Text

When typing text in a cell, Excel compares the text against the cells above. If a cell above starts with the same characters, Excel offers to complete the same value. For instance, cell A1 has the text "John", and A2 has the text "Mary". Move to A3 and press "J". Excel will insert the "J", then insert and select "ohn". NVDA will announce the selected text ("Selected ohn"). To read the whole cell or the first line if the text is longer than a line, press **NVDA+up arrow** (laptop: **NVDA+I**). Press **enter** or **tab** to accept Excel's suggested value. To type something different, keep typing, and the selected text, e.g. "ohn", will be overwritten. To remove the selected text and leave what you have typed, e.g. "J", press **delete**.

While in edit mode, select and copy text in cells, just as in other programs. Hold down **shift** and use the navigation keys to select text. Press **control+c** to copy or **control+x** to cut the text. Move to the new location and press **control+v** to paste the text.

While selecting text, press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**) to read the currently selected text. After copying text to the clipboard, press **NVDA+c** to read the contents of the clipboard.

To select the current cell and any adjacent cells with text, press **control+a**. Depending on the contents, **control+a** may select blocks of cells or the entire worksheet. With less than the whole sheet selected, NVDA will announce the selected cells. If nothing is reported, the entire worksheet has been selected.

Pasting text to a new cell works the same as typing into the cell. Move to the cell and press **control+v** to paste the text from the clipboard into the cell. Any existing contents are overwritten. Press **f2** to go into edit mode before pasting to append the copied text to the existing contents of the cell.

Activity: Copying Text

1. Open Excel to a blank workbook.
2. In cell A1, type *red block* and in cell A2, type the word *green*.
3. Move back to cell A1, and press **f2** to go into edit mode.
4. Press **home**, then **shift+end**, to select both words.
5. Press **control+c** to copy the text.
6. Move to cell B1 and paste the text.
7. Move back to cell A1 and copy the word "block".
8. Move to cell A2, press **f2** and paste the word "block". Confirm the text in this cell reads "Green block".

9. Save the workbook as "blocks" and leave it open to return to next activity.

3.5 Copying Cells

Copying entire cells works the same as copying text. When Excel is not in edit mode, the navigation keys move between cells. Press **shift** with navigation keys to select cells. Press **control+c** to copy the selected cells or **control+x** to cut the selected cells. Press **control+v** to paste cells. The cell with focus is the top left cell pasted into. Pasting cells overwrites any information already in the destination cells.

If a block of two cells wide by one high is pasted into cell D3, they cover D3 and E3. If the copied cells are two cells wide and three high, pasting into cell C1 covers from C1 to D3.

Activity: Copying Cells

1. Make sure the "blocks" workbook is open from the last activity.
2. Move to cell A1.
3. Press **shift+down arrow** to select cells A1 and A2.
4. Press **control+c**.
5. Move to C1.
6. Press **control+v** to paste the cells.
7. Move to cell A2 and paste the cells again.
8. Navigate around the worksheet and note what is in cells A1 to A3.
9. Save the "blocks" workbook and close Excel.

3.6 Pasting to More than One Cell

If the focus is on one cell when **control+v** is pressed, the pasted cells treat that as the first cell to paste into. If more than one cell is selected when pasting, Excel tries to paste in the most logical manner. Copying one cell into three cells, for instance, places a copy of the cell in each of the selected cells.

Press **NVDA+c** to read the contents of the clipboard. NVDA reads the text from all the copied cells, but not any information about the number of cells.

After pressing **control+v**, the cells are pasted and then selected. Press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**) to read the selected cells. NVDA reports the text as well as the cell coordinates the pasted cells occupy.

Activity: Pasting to more than one cell

1. Open Excel to a blank workbook.
2. In A3 type *cats*, in B3 type *dogs* and in B4, type *mice*.
3. Select cells A3 to B4.
4. Press **control+x** to cut the cells.
5. Select B2 to C3.
6. Press **control+v** to paste the cells.

7. Copy cell C3, select cells D4 to D6 and paste the cells.
8. Press **NVDA+shift+up arrow** (Laptop: **NVDA+shift+s**) to read the selection. Excel has pasted the word "mice" into each of the three selected cells.
9. Close Excel without saving changes.

3.7 Adding Headers

Information in Excel is often in blocks. In a spreadsheet about plants, for instance, each row would contain details of a plant. Each column would contain a different property of each plant.

The top row of information in a spreadsheet often contains headers. For example, "Plant name", "Type of plant" and "Season to plant".

Knowing the top row of information is a header row is useful when navigating across a row further down. Instead of giving only the cell reference, e.g., "C5", NVDA can read "C5, Season to plant".

To set a row as containing column headers, first, move to the cell where the column headers start. Column headers often begin in the first column of the row. Press **NVDA+shift+c** to set the current row as containing column headers.

To set the column containing row headers, move to the first cell that contains a row heading. Next, press **NVDA+control+r**. In the plant example, column A contains the name of the plant in each row. Setting this as the row headers means NVDA reads the name of each plant while navigating down the rows.

Let's setup a workbook about plants now and add headings to it:

Activity: Adding headers

1. Open Excel to a blank workbook.
2. In A1, Type "My plants", then press **enter** to move to A2.
3. In A2, Type "Plant name", then press **tab** to navigate to B2.
4. Type "Type of plant", press **tab**, then type "Season to plant". Press **enter** to move to A3.
5. Add information for Roses; a flower planted in Winter. Next, add information in row 3 for Potatoes; a vegetable planted in Spring.
6. Navigate to cell A2, which is the start of the header row. Note how NVDA only announces the cell coordinates while moving.
7. Press **NVDA+shift+c** to set row 2 as the row containing column headers.
8. Navigate to A4, then press the right arrow to read the details about potatoes. NVDA announces the headers "Type of plant", "Season to plant" and the values of each cell.
9. Press **control+s**. Save the workbook as "Plants".

3.8 Clearing Headers

It is possible to clear the headers, so they are no longer announced. Clearing headers can be useful if moving the header row or column. The focus must be on the cell the header was set in. Press **NVDA+shift+c** twice quickly to clear the column headers. Press **NVDA+shift+r** twice quickly to clear row headers.

A worksheet may have several distinct blocks of information. Having several rows or columns of headers enables efficient navigation without confusion.

Headers are saved in the current workbook. If the workbook is shared with another user, the headers remain intact and do not need to be set again.

The next activity extends the "plants" workbook, adding a second block of information. Each block of information has separate headers. Let's try it now:

Activity: Clearing headers

1. Make sure the Plants workbook is open from the previous activity.
2. Move to cell B1, and press **NVDA+shift+r** to set the row header to the current column.
3. Move right to column C, then move down through the plants to hear the row headers announced.
4. Move back to B1.
5. Press **NVDA+shift+r** twice quickly to clear the row headers.
6. Move to cell A6 and write Schedule. Across row 7, write the days of the week. Put "Sunday" in A7 and continue through to "Saturday" in G7.
7. Move to A7 and press **NVDA+shift+c** to set this row as containing column headers.
8. Navigate to row 3 and move across it, then move to row 8 and across it. NVDA announces each set of column headers in the appropriate places.
9. Save the "Plants" workbook and close Excel.

3.9 Working with Rows and Columns

Selecting, adding or removing entire rows or columns with single commands is possible.

To select an entire row, press **shift+spacebar**. To select more than one row, press **shift+spacebar**, then **shift+down arrow** or **shift+up arrow**.

To select an entire column, press **control+spacebar**. To select more than one column, select one, then press **shift+right arrow** or **shift+left arrow**.

Press **NVDA+shift+up arrow** (laptop: **NVDA+shift+s**) to read the current selection. NVDA reads the addresses of the selected cells and the contents of the first cell. To read the contents of the selected cells, copy them to the clipboard then read the clipboard. Press **control+c**, to copy then **NVDA+c** to read the clipboard.

To insert cells, press **control+shift+plus** (pressing **control+numpad plus** also works). If multiple rows or columns are selected, the same number of rows or columns will be inserted.

If there are no full rows or columns selected, the insert dialog will appear. The insert dialog has options to insert a row or column, or shift cells right or down. If cells are shifted right, then the current cell, and all cells to the right, will move right by one cell. Shifting cells down works the same way. Ensure that any cells shifted still relate to their column or row.

To duplicate rows or columns, first select the row or column and copy it as normal. Next, move to the destination row or column. Finally, press the **application key** then choose "Insert copied cells". This will insert the row or column in the current position and move the existing data down or to the right.

Activity: Working with rows and columns

1. Open Excel to a blank worksheet.
2. Across row 1, add the headings "Pet name", "animal" and "colour".
3. In row 2, add "fluffy", a white rabbit. In row 3, add "Spot", a brown dog. In row 4, add "Smoke", a grey cat.
4. Set A1 as the start of row headers and A2 as the start of column headers.
5. Navigate to B3 and press **shift+space** to select row 3.
6. Press **control+shift+plus** to insert a new row. The rows containing information on "Spot" and "Smoke" move down and row 3 is now blank and selected.
7. Press the **left arrow** to move to cell A3, and in row 3 add details for "Brownie", the brown horse.
8. Select column C and add a new column listing the ages of each animal. Add an age between 2 and 7 for each animal.
9. Save the workbook as "Pets" and close Excel.

3.10 Excel Essentials Review

This section covered entering and editing text in cells. Some of the key concepts included:

- Excel edit modes
 - Overwriting cell contents
 - Editing text
 - Edit and Enter modes
- Copy and Paste
 - Copying text
 - Copying cells
 - Pasting to more than one cell
- Headers
 - Adding headers
 - Clearing headers
- Working with rows and columns
 - Selecting rows and columns
 - Copying rows and columns
 - Adding rows and columns

Activity: Excel essentials review

1. Open the Excel Journal created previously.
 2. Edit cell A1 to read "My Excel Journal".
 3. Type "Subject" in cell A2 and "Notes" in B2.
 4. Set A2 as the start of the column headers. Set A3 as the start of the row headers.
 5. Move the text in rows 3 to 11 across to place it under the "Notes" header.
 6. Add suitable "subject" text in A3 to A11.
 7. In A12, type "Headers". In B12, explain how to set headers as well as how to clear them. Note how NVDA reports the header for each column ("Subject" or "Notes").
 8. Select row 12 and insert a new row above. Type "Edit and Enter modes" in the newly inserted A12. In B12, explain the difference between Edit and Enter modes.
 9. Save the journal and exit Excel.
-

4 Working with Worksheets

The aim of this section is to cover creating and using workbooks with more than one worksheet.

Goals for this section:

- Inserting and deleting worksheets
- Moving between worksheets
- Identifying and renaming worksheets
- Moving and copying worksheets

4.1 Inserting New Worksheets

Up to this point, activities have used a single worksheet. A workbook may have many worksheets, known as sheets. All the sheets in a workbook should relate to the one topic. In the "plants" example, the gardening schedule could be on a separate worksheet. Flowers could be on a separate worksheet to vegetables.

In Office 2010 and earlier, new workbooks have three worksheets by default. In Office 2013 and later, new workbooks have one worksheet by default.

The command to add a new worksheet to the current workbook is on the Home ribbon. Press **alt+h** to move to the home ribbon, then **i** for insert, then **s** for sheet. Excel adds the new sheet to the workbook before the current sheet.

New worksheets added to a workbook start out blank. Excel identifies cell coordinates in the same way as when there is only one sheet. For instance, A1 is the top, leftmost cell and B3 is in the second column of the third row. Excel names the first sheet in a workbook "Sheet 1". The second sheet is "Sheet 2", and so on.

Another way of inserting a new worksheet is to press **shift+f11**. The command works the same as inserting a sheet using the Home ribbon.

Let's insert some worksheets in a workbook now:

Activity: Inserting new worksheets

1. Open Excel to a new, blank workbook.
2. Type "This is the first sheet" in cell A1.
3. Press **alt+h** to open the home ribbon.
4. Press **i** for insert, then **s** for sheet. NVDA announces the name of the new sheet.
5. Explore the worksheet. Note that there is no text in cell A1.
6. Press **shift+f11** to insert another worksheet.
7. Close Excel without saving.

4.2 Moving Between Worksheets

After adding new worksheets to a workbook, it is important to be able to move between them. Press **control+page up** to move to the sheet before the current sheet. Press **control+page down** to navigate to the sheet after the current sheet. After the last sheet, NVDA announces the location in the current sheet when trying to go to the next sheet.

Activity: Moving between worksheets

1. Open Excel to a new, blank workbook.
2. Type "This is the first sheet" in cell A1.
3. Press **alt+h**, then **i** then **s** to insert a new sheet.
4. Type "This is the second sheet".
5. Press **control+page down** to move back to the original sheet.
6. Press **control+page down** to check whether there are any other sheets and move to them. NVDA reports either the name of the new sheet with focus, or "A1", the coordinates in the current sheet.
7. Add another new sheet (repeat step 3).
8. Use **control+page up** and **control+page down** to explore the location of the sheets. Excel inserted the new sheet before the last sheet.
9. Save the worksheet as "multiple sheets" and leave it open to return to next activity.

4.3 Identifying the Current Worksheet

When using a workbook with more than one sheet, knowing which sheet has focus is important. NVDA reads the name of the current worksheet when Excel first gets focus, such as with **alt+tab**. The current sheet is also reported when moving between worksheets. Press **control+page up** or **control+page down** to move between worksheets.

The "Report review cursor location" command identifies the current worksheet and cell coordinates. press **NVDA+numpad Delete** (Laptop: **NVDA+delete**) to report the current location.

Activity: Identifying the current worksheet

1. Make sure the "Multiple sheets" workbook is open from the previous activity.
2. Use **control+page up** and **control+page down** to navigate between sheets. Move to "Sheet 2".
3. In B2 write "Knives". Move across and write "Forks" in C2 and "Spoons" in D2.
4. Set B2 as the start of column headers. Navigate across row 3 to confirm NVDA reports the headers.
5. Move to C4, and press **NVDA+numpad delete** (laptop: **NVDA+delete**). NVDA reports the sheet name and focus location.
6. Press **NVDA+tab** to compare the information provided by the two commands.
7. Press **NVDA+t** to report the title.
8. Move to "Sheet 1" and navigate to cell D6. Repeat steps 5 to 7 to have NVDA report the current location information.
9. Save the "Multiple sheets" worksheet and close Excel.

4.4 Renaming the Current Worksheet

The first worksheet in a workbook is "Sheet1". Like new documents in Word, additional sheets are numbered incrementally. A second inserted sheet is called "Sheet2" and the third is called "Sheet3".

Renaming worksheets makes the purpose of each sheet much clearer. For example, a workbook called "Weather observations" has several worksheets. If these worksheets are named "Sheet1" and "Sheet2", it is not obvious what is on each sheet. If the worksheets are named for the months of the year, it is easy to work out the purpose of each sheet.

The function to rename a worksheet is on the Home ribbon. Press **alt+h** for the Home ribbon, **o** for format, then **r** to rename the current worksheet. NVDA reads the name of the sheet, then "edit". The name of the current sheet becomes an edit field and the text of the name is selected. Type a new name to overwrite the old name, or use the navigation keys to edit the existing name. **f2** does not work when editing the sheet name.

Let's edit some worksheet names now:

Activity: Renaming the current worksheet

1. Open a blank workbook in Excel.
2. Create a new sheet before the original sheet.

3. Press **alt+h** to open the home ribbon.
4. Press **o** to choose "Format", then **r** to choose "Rename sheet".
5. Type *January* and press **enter** to change the name.
6. Repeat steps 2 to 5 to create worksheets named for each month of the year. Change the name typed in step 5 to the next month each time.
7. Press **control+page up** and **control+page down** to move through the sheets. Ensure there is a sheet for each month. Ignore any extra sheets for now.
8. Ensure the focus is on the sheet for "July" and save the workbook as "Weather observations".
9. Close Excel.

4.5 Moving Worksheets

Existing worksheets can be moved, to reorder the workbook. Press **alt+h** to open the Home ribbon. Press **o** for Format, then **m** to open the "move or copy" sheet function. The focus starts in the "Before sheet" list. Choose the sheet to move the current worksheet to, or "(move to end)" to move the sheet to the end of the workbook. Press **enter** to accept the action or **escape** to cancel and close the dialog.

In the previous activity, each inserted sheet became the first sheet. The order of the sheets is December, November, October, and so on. The current worksheet and coordinates are stored when saving a workbook. When opening a workbook, the focus returns to the saved sheet and coordinates. When the workbook opens in the next activity, observe the focus return to the July sheet. Let's open the workbook now to reorder the sheets:

Activity: Moving worksheets

1. Open the weather observations workbook saved in the last activity.
2. Press **NVDA+numpad 8** (laptop: **NVDA+shift+up arrow**) to read the worksheet name. Confirm that the focus is on the "July" sheet.
3. Press **control+page up** to move to the previous sheet until the focus is on the first sheet, December.
4. Press **alt+h** then **o** then **m** to open the "move or copy" sheet function.
5. Press **down arrow** to select "(move to end)".
6. Press **enter** to accept the action and move the worksheet.
7. Repeat steps 3 to 6 and reorder the rest of the worksheets.
8. Use **control+page up** to move to the first worksheet. Ensure this is "January". Press **control+page down** to move through the worksheets, ensuring they are in order.
9. Save the workbook and close Excel.

4.6 Finding Text

Finding text in Excel is like finding text in other programs. Press **control+f**, type the text to find and press **enter**.

Replacing text also works in the same way as in other Microsoft Office programs. First, press **control+h** and type the text to find. Next, press **tab** and type the text to replace the found text with, then press **enter** to perform the find and replace.

Both find, and replace have many options which are specific to Excel.

Press **alt+t** from either dialog to show (or hide) more options. The scope of the search can be within the current sheet, or the whole workbook. The search can work by rows or by columns. Searching by rows looks across each row then down to the next column. Searching by column looks down each column then across each row. Match case and match entire cell contents can narrow down results.

There are several other options which will be covered later in this module.

Let's search for some text now:

Activity: Finding text

1. Open a blank workbook and name the first sheet "Test sheet"
2. In C2 type "This is a test", and in E4 type "test passed".
3. Insert a new sheet and name it "Results sheet".
4. In D3 type "Here are your results".
5. Move to cell A1 and press **control+f**.
6. Type "results" and press **enter**.
7. Press **escape** to close the find dialog. The current cell is now D4, which has the contents "Here are your results".
8. Press **alt+f**, then type "test". Press **alt+t** to show more options and tab to "within". Select "Workbook" and press **enter**.
9. Press **enter** again to run the search, then **escape** to close the dialog. Note that the focus has moved to the test sheet. Close Excel.

4.7 Copying a Worksheet

Copy worksheets using the "Move or copy" sheet function. The process is almost identical to that used in the previous activity. After selecting where to copy the worksheet, press TAB to navigate to a "Make a copy" checkbox. Press **spacebar** to check the make a copy checkbox, then press **enter** to copy the worksheet.

The new sheet has the same name as the old sheet with (2) at the end. If the original sheet is copied again, the copy will have (3) at the end.

Information may be similar on each sheet in a workbook. In a monthly attendance workbook, for instance, each month is on its own worksheet. Once this has been setup on the first sheet, copy the sheet to create the next month's attendance record. Copying a worksheet means the layout and headers do not need to be set again from scratch. Copying worksheets as needed means that the last sheet in the workbook is always the current one. Making changes to the layout is only done for existing worksheets. When copying worksheets for future, they already have the correct, current layout.

Activity: Copying a worksheet

1. Open Excel to a blank workbook.
2. Type *Name* in A1, *Age* in A2 and *Height* in A3.
3. Move back to A1 and press **NVDA+control+c** to set the start of the column headers.
4. Move to cell A2 then across to the right to confirm reading the header row. NVDA should report "B2, Age" when the focus moves to B2.
5. Press **alt+h** then **o** then **m** to open the "move or copy" sheet dialog.
6. Press **tab** to the "Create a copy" checkbox and press **spacebar** to check the checkbox.
7. Press **enter** to create the copy and move the focus to the new copy.
8. Press **NVDA+numpad 8** (Laptop: **NVDA+shift+up arrow**) to read the name of the current sheet. NVDA reports that the sheet name is "Sheet1 (2)".
9. Read through the first three cells in row 1 and 2 to confirm the contents and headers were copied to the new sheet. Save the workbook as *heights* and leave it open to return to next activity.

4.8 Deleting a Worksheet

Deleting a worksheet is a similar process to inserting a sheet. Press **alt+h** for the home ribbon, then **d** for delete, then **s** for sheet. A dialog then appears, warning that this will permanently delete the sheet. To accept this, and delete the sheet, press **enter**. To cancel and return to the worksheet without deleting, press **escape**.

Let's delete a sheet from a workbook now:

Activity: Deleting worksheets

1. Make sure the "heights" workbook is open from the previous activity. Press **NVDA+numpad 8** (Laptop: **NVDA+shift+up arrow**) to read the name of the current sheet. Confirm that the focus is on "Sheet1 (2)".
2. Rename the sheet. Press **alt+h** then **o** then **r**. Call the sheet "information".
3. Press **control+page down** and **control+page up** to move between worksheets. Confirm the workbook has "Sheet1" and "Information". Depending on the version of Excel there may be other sheets.
4. Navigate to "Sheet1".
5. Press **alt+h**, then **d**, then **s** to delete Sheet1.
6. Press **enter** to confirm deleting the sheet.
7. Press **NVDA+numpad 8** (Laptop: **NVDA+shift+up arrow**) to read the sheet name. Confirm the focus has moved to the "Information" sheet.
8. Press **control+page up** and **control+page down** to navigate through the sheets. Confirm that "Sheet1" no longer exists.
9. Save the "heights" workbook and close Excel.

4.9 Working with Worksheets Review

This section covered using multiple sheets in Excel. Some of the key concepts included:

- Inserting Worksheets
- Moving between worksheets
- Identifying the current worksheet
- Renaming the worksheet
- Finding text in worksheets
- Moving worksheets
- Copying worksheets
- Deleting the current worksheet

Activity: Working with worksheets review

1. Open your Excel journal.
 2. Insert a new worksheet and rename it to Overview.
 3. Type "My Excel Journal" in A1. In cell A3, type "Section", in B3, type "Topics", and in C3, type "Date completed".
 4. Set A3 as start of column headers and A4 as start of row headers.
 5. Move back to "Sheet1". Rename this sheet "Excel Essentials".
 6. Create a copy of the Sheet1 and place at the end. Rename the copy to "Working with Worksheets".
 7. Select the range from cell A3 to E14 and delete the contents.
 8. Under the subject and notes headings, write one line on each of the following:
 - How to insert a worksheet
 - How to move between worksheets
 - How to identify the current worksheet
 - Finding text
 - Renaming worksheets
 - Moving worksheets
 - Copying worksheets
 - Deleting worksheets
 9. Save the workbook and close Excel.
-

5 Basic Formulas

The aim of this section is to introduce formulas. Formulas are one of the most powerful features of Excel. Formulas perform data manipulation and calculations.

Goals for this section:

- Referencing cells
- Basic addition
- Autosum
- Average, Count, Max, Min

- Absolute cell references
- Referencing other sheets
- Adding text
- Financial
- Logical
- Text
- Date and Time
- Lookup and reference
- Math and Trig
- More functions

5.1 Writing a Formula

When writing a formula into a cell, the first character must be the equals sign ("="). Anything else in the cell must be a valid formula or instruction to Excel.

One of the easiest and most common formulas is adding numbers. Place the equals sign at the start of the equation, then type the numbers separated by the plus sign. For instance, to add 5 and 3 in cell A1, navigate to A1 and type:

=5+3

When navigating to a cell with a formula, NVDA reads the value, the reference and that the cell "has formula".

In the example adding 5 and 3 in A1, NVDA would report "8, A1, has formula".

To read the formula in the cell, press **f2** to go into edit mode. After reading, press **escape** to return to enter mode without saving any changes. To save changes, press **enter** or **tab** instead of **escape**. When editing the formula, any changes to the value appear immediately.

Activity: Writing a formula

1. Open Excel to a blank workbook.
2. In cell A1, type "Maths", in A3, type "Addition:" and in B3, type:

=5+3.

3. Press **tab**.
4. Navigate back to B3 and note what NVDA reads.
5. Press **f2** to go into edit mode.
6. Read the formula, then press **escape** to return to enter mode.
7. Press **f2** again and change the cell to read "=4+3".
8. Navigate away from B3 and back to read the cell value, the result of the formula. NVDA should read the value of the cell as "7" now.
9. Save the workbook as "Maths" and leave it open to return to next activity.

5.2 Minus, Divide and Multiply

Minus, divide and multiply work the same as addition. Use the minus sign "-" for subtraction. Use the slash "/" to perform division and use the asterisk "*" for multiplication.

When using more than one type of equation, BODMAS is used. BODMAS stands for brackets, order, division, multiplication, addition and subtraction. Parentheses "(" and ")" are calculated first, then division, multiplication, addition and subtraction.

A cell with " $=4+3*2$ " would equal 10 because $3*2$ is calculated first, giving 6. Next $4 + 6$ is calculated, resulting in a value of 10. The result of the formula " $=(4+3)*2$ " is 14, as the parentheses are calculated first. $4+3$ is 7, multiplied by 2 gives 14. Excel will display decimal places if needed. The sum $=4/3$ gives a result value of "1.333333", which is one and a third.

Activity: Minus, divide and multiply

1. Make sure the "Maths" workbook is open from the previous activity.
2. Move to A3 and press **NVDA+control+r** to set A3 as the start of row headers.
3. In A4, type "Subtraction:", and in B4 type:

$=4-3$

4. In A5, type "Division:", and in B5 type:

$=4/3$

5. In A6, type "Multiplication:" and in B6 type:

$=4*3$

6. In A7, type "Brackets:" and in B7 type:

$=(4+3)*2$

7. In A8, type "Without brackets:" and in B8 type:

$=4+3*2$

8. Move through the cells in column B and practise reading the formula.
9. Save the "Maths" workbook and close Excel.

5.3 Cell References

Formulas can refer to other cells. To reference another cell, write the reference for its location. To have cell D1 show the contents of cell A1, move to cell D1 and type:

$=A1$

Cell references, combined with basic mathematics, can return quite a lot of information.

To add the value of two cells together, type:

=A1+B2

To get half of a cell's value, type:

=B3/2

When doing calculations in cells, spaces do not affect the formula but may make it more readable.

Activity: Cell references

1. Open Excel to a blank workbook.
2. Type "Cell references" in A1.
3. Type "Value 1" in A3 and "5" in B3.
4. Type "Value 2" in A4 and "3" in B4.
5. In cell A6 type "Value of B3", and in B6 type "=B3".
6. In A7 type "Addition" and in B7 type "=B3+B4".
7. In A8 type "Division" and in B8 type "=B3/2".
8. Navigate to A3 and set it as the start of the row headers, then move through column B, reading the values and formulas.
9. Save the workbook as "Cell references" and close Excel.

5.4 Sum and Autosum

It is possible to add the values of cells together using cell references and addition. Instead of needing to type "=A1+A2+A3+A4", Excel includes a sum function. Type "=SUM(A1:A4)", where A1 is the first cell and A4 is the last cell in the range. The range may be all in the one line "(A4:D4)" or column "(A1:A4)". A block may contain both columns and rows "(A1:D4)".

An even easier way of adding a sum formula below or after a group of cells is to use "autosum". Press **alt+=** to insert a sum formula without needing to type it. Excel will try to work out the cells to sum automatically. If there is data beside and above the cell, confirm that the autosum formula adds the correct cells.

Formulas such as sum, which work with numbers, will ignore any non-numbers in the range. Limiting calculations to cells which contain values may make reading the formula easier.

Let's create a spreadsheet to record sales of fruit and explore using "sum":

Activity: Sum and autosum

1. Open a blank workbook in Excel.

2. From A1 to E1, write:
 - Fruit sales
 - January
 - February
 - March
 - Total
3. In A2, type "Apples" and in B2 to D2, add the values, 5, 2 and 3.
4. Move to cell E2 and press **alt+equals**. Excel adds a sum function, and NVDA notes that "B2:D2" is selected.
5. Press TAB to accept the offered sum formula and move to cell F2.
6. Press **left arrow** to return to E2 and read the value, which should be 10.
7. Press **f2** to go into edit mode and read the formula.
8. Press **escape** to leave edit mode.
9. Save the workbook as "Fruit" and leave it open to return to next activity.

5.5 Relative References

Cell references written with the letter and number coordinates are "relative" references. Copying a cell one cell right adjusts any references in the formula by one cell. For example, A8 contains a formula to add the values from A2 to A7: `=SUM(A2:A7)`. When copying cell A8 one cell to the right, to B8, the formula in B8 reads `=SUM(B2:B7)`. When adding a new row before row 4, the sum formula adjusts to include the original cells and the new one.

Press **f2** to edit a cell, then use the standard text selection and copying keys to copy the formula. When copying the text of the formula (rather than the cell) to a new cell, the references do not change. Copying the text `"=SUM(A2:A7)"` only from A8 to B8, the contents of B8 would be `"=SUM(A2:A7)"`.

Let's add some more data to the fruit workbook now:

Activity: Relative references

1. Make sure the "fruit" workbook is open from the previous activity.
2. Move to row three and add a line for "Bananas". Sales were 10 in January, 8 in February and 6 in March.
3. Move to cell E2, the sum formula to calculate total number of apples sold. Press **control+c** to copy this formula.
4. Move back to cell E3 and press **control+v** to paste the formula. NVDA announces "24 has formula".
5. Press **f2** to edit and double check the formula is calculating the sum of B3 to D3.
6. Add a row for sales of Grapes. Sales of grapes were even at 3 each month.
7. In E4 press **alt+equals** to auto sum the values. Do not press anything yet, but listen to the range Excel reads out.

- Excel offers to calculate the sum of E2:E3 (the total of the two previous line totals). Type B4:D4 to ensure it is calculating the total of the grapes sold before pressing **enter**.
- Navigate back to E4 to check the value is 9 before saving the fruit worksheet and closing Excel.

5.6 Other Calculation Formulas

The sum formula takes a range of cells and gives the total value of the cells added together. Other formulas provide information on a range of cells in the same format.

For the following formulas, let's assume the input was from four cells, B3:B6, with values: 5, 9, 7, 3. The sum function, for instance, would be `=sum(B2:B5)` and give the value 24 (5+9+7+3).

The "Average" formula gives the average value of the cells. From the example, the average formula would be `=average(B3:B6)` and return 6.

The "Min" formula gives the minimum or lowest value out of the set provided. From the example, the min formula would be `=min(B3:B6)` and return 3.

The "Max" formula gives the maximum or highest value out of the set provided. From the example, the max formula would be `=max(B3:B6)` and return 9.

The "count" formula gives the number of values in the set. From the example, the count formula would be `=count(B3:B6)` and return 4.

Let's try out the calculation formulas on coffee demand at a small cafe:

Activity: Other calculation formulas

- Open Excel to a blank workbook.
- Under the title: "Coffee demand", enter the following data in A2 to B6:

Time Served Early morning 5
Breakfast 9
Mid-morning 7
Lunch 3

- Working down from A7, place the labels "Sum", "Average", "Min", "Max" and "Count".
- Enter the formula for Sum in B7:

`=sum(B3:B6)`

- In the appropriate cells, enter the formulas for "Average", "Min", "Max" and "Count". Check the results of each formula against the values in the topic above to ensure they match.

6. In C1 write *Cost* and in D1, write 3.
7. In A12 write "Revenue".
8. In B12, write a formula to calculate the sum of the number of coffees served (from B7), multiplied by the cost (from D1).
9. Save the worksheet as "coffee" and leave it open.

5.7 Show Formulas

When navigating around cells, NVDA reads the value of each cell and reports when there is a formula. It is possible to set Excel to show the formula in the cell, rather than the output value.

Press **control+`** to toggle whether Excel shows the value or formula for each cell. On a full sized English layout keyboard, the ` (Grav) key is above **tab** and to the left of the **1** on the number row.

Press **control+enter** to save changes to a cell and read the new result without moving.

The owner of the coffee shop from the previous activity needs to cut the opening hours. She wants to maintain the same revenue, serving only breakfast and mid-morning. She has asked us to investigate how much she needs to increase coffee prices by, to keep the same revenue. While practising reading values and formulas, let's test changing coffee prices:

Activity: Show Formula

1. Make sure the "Coffee" worksheet is open.
2. Press **control+`** to change from viewing cell values to viewing formula.
3. Navigate down column A and note NVDA read the formulas. Note that this view makes it quicker to compare formulas and ensure the ranges are correct.
4. Label C2 *changes*. In C4 and C5 only, write formulas to calculate the sales from B4 and B5.
5. Write formulas in C7 to C11 to perform the calculations for sum through to count.
6. Press **control+`** to show values again. Navigate through the calculations in column C to check the values.
7. For the revenue formula, add 0.5 to the cost. Use parentheses, so the calculations happen in the correct order, for instance, =C7*(cost+0.5). Press **control+enter** to save the formula and read the new value without navigating away from the cell.
8. Read the results of the revenue formula. Keep adjusting the amount added (0.6, 1.0, etc.) to find a value which matches the original revenue in B12.
9. Read through the revenue for the different options and work out the best choice. Save the workbook and close Excel.

5.8 Combining Functions

A quick note on the terms "function" and "formula". A function is a command such as "=SUM()" or "=COUNT()". A formula may include one or more of these functions in the one equation.

When using more than one function in a formula, the equals sign (=) is only used at the start of the formula. Functions can be combined with the basic mathematical operators to give new information. To find out what double the average number in a group is, the formula is:

=AVERAGE(B3:B7)*2

To work out the difference between the lowest and highest numbers in a group, use:

=MAX(B3:B7)-MIN(B3:B7)

Often it is good to double check formulas by approaching them from a different angle. This is particularly important when combining multiple functions into one formula. An alternate way of calculating the average is to divide the sum by the count:

=SUM(B3:B7) / COUNT(B3:B7)

An alternate way of doubling a value is to add it to itself, E.G.: =AVERAGE(B3:B7) + AVERAGE(B3:B7)

it is easy to think that a simple SUM or AVERAGE formula likely will not need to be double checked. What the formula does may be easy to work out, yet that can make it easy to overlook an error in the cells it is calculating. If a formula is calculating the sum of B3:B7 instead of B3:B6, it will affect any other formulas relying on this cell. it is also important to think about how to verify formulas as they get more complex.

Activity: Combining Functions

1. Create a new workbook and add the title "Rainfall totals" to cell A1.
2. Under the title, write the headings "Month", "Rain" and "Verification" across row 2. Move to an appropriate cell and set column headers.
3. From A3 down, write the months "May" to "August". Below the months, write "Total", "Average", "Double average", "Min", "Max" and "Range". Move to an appropriate cell and set row headers.
4. For the rain in May to August, write "20", "90", "85" and "60" in B3 to B6.
5. Fill in the formulas to calculate the "Total", "Average", "Min" and "Max" values.
6. To calculate the "Double average", write a formula to calculate the average * 2.
7. Move to the verification column, next to the total. Write a formula using the "+" symbol rather than sum to calculate the total rainfall.
8. Verify that the two "Total" values match. Read through the rest of the sheet. Think about how you might write alternative formulas for the other calculations.

9. Save the spreadsheet as "Rainfall". Either close Excel, or continue to the bonus task.

Bonus Task:

- Write a "Range" label. Next to it, write formula to calculate the range (hint: use the "Min" and "Max" values).
- Write alternate formulas to calculate Average and double average. Verify that these agree with the original calculations.

5.9 Basic Formulas Review

This section covered some of the key details about using formulas. Topics included:

- Writing formulas
- Basic calculations
- Cell references
- Sum and Autosum
- Understanding relative references
- Other calculations
- Show formula

Activity: Basic formulas review

1. Open the Excel Journal.
 2. Create a new sheet at the end of the list and call it "Formulas".
 3. Write the title "Basic Formulas" in A1. In A2 write "Test figures" and from A3:E3 write the figures 5, 14, 1, 11 and 9.
 4. In A4, explain cell references, including what happens when copying a cell or its formula one row down.
 5. In A5, write the shortcut key to toggle showing formulas or values. Explain how each behaves when navigating.
 6. Write *Formula* in A6, *example* in B6 and *Notes* in C6. Make A6 the start of column headers and A5 the start of row headers.
 7. In A7, write *maths*, in B7, write $=A3+(B3-C3)D3/E3$ and in C7 write an explanation of how to use maths symbols.
 8. In rows 8 to 12, fill in the details for the *sum*, *min*, *max*, *average* and *count* formulas.
 9. Save the journal and close Excel.
-

6 More Formulas

The aim of this section is to expand on using formulas. There are naming strategies, advanced referencing and looking up functions.

Goals for this section:

- Absolute and mixed references
- Naming cells and ranges
- Using the formulas ribbon
- Other formulas.

6.1 Absolute References

Unlike relative references, absolute references do not change when copied. To write an absolute reference, include a dollar sign "\$" before the row or column reference. To ensure a reference always points to cell B2, for instance, type it as \$B\$2 when using it in a formula.

To get the sum of the cells from B2 to B4 using absolute references, write:

```
=sum($B$2:$B$4)
```

Absolute references are useful for pointing at specific information, which will not move.

One use of an absolute reference might be for a tax rate. Place the tax rate in one cell and then refer to that cell when calculating tax in other cells. If the tax rate changes, update the tax rate cell, and the other calculations will stay correct. A formula for calculating the percentage of tax on an item is: $\text{>=cost * tax rate/100}$

Let's use some absolute references to calculate sales tax:

Activity: Absolute references

1. Open a blank workbook in Excel.
2. In cell A1, write the title "Clothing sales". Across row 2, write the headings: "Item", "Cost", "Tax", "Price".
3. Populate columns A and B with the data that dresses cost 45, pants 23, and shirt 16. Do not use any dollar or currency symbols.
4. Sales tax is 9 percent. In C1, write "Tax rate" and in D1 write 9.
5. To calculate tax for the dress, move to C3, and type the formula:

```
=B3*$D$1/100
```

6. Press **enter**, then copy cell C3 to cells C4 and C5. Note how the reference to tax rate does not change, while the reference to the item cost does update.
7. Move to cell D3 and press **alt+=** to insert an auto sum.
8. Copy the autosum formula from D3 to D4 and D5 and note how the references update.
9. Change the tax rate in D1 to 12 and note how this change affects the other calculations. Save the spreadsheet as "Clothes" and leave Excel open.

6.2 Mixed References

Cell references can be mixed, or partially absolute. Mixed references have a dollar sign in front of the row or column reference only, rather than both. In the price of the dress in the previous activity, the reference to the tax rate is an absolute reference. No matter where the cell with the formula is copied, the reference still points to the cell with the tax rate. The formula to calculate the total cost of the dress was `=SUM(B3:C3)`. Copying this down to the pants on row 4 updated the formula for that row. If the formula is moved one column to the right, it would update to calculate C3:D3. To ensure a formula always points to cells B and C of the current row, change the formula to:

`=sum($B3:$C3)`

When editing, press **f4** to cycle through combinations of relative and absolute references. With multiple references selected, they are all changed. With nothing selected, only the reference at the caret is changed. NVDA does not announce anything when pressing **f4**. Reading the current line, however, will read the updated formula.

Activity: Mixed references

1. Make sure the "Clothes" workbook is open.
2. Move to D3. Note that the value is 50.4 as it calculates 12% tax on the \$45 dress.
3. Copy the cell.
4. Move to E3 and paste the cell. The value should be 55.8. Edit the formula and note that it now calculates the sum of C3 and D3.
5. Move back to D3 and press **f2** to edit the formula.
6. Change the formula to `=SUM($B3:$C3)`.
7. Copy the cell to D4 and D5 and note that it still calculates the total of the pants and shirt.
8. Copy the formula to E3, E4 and E5. Note that the formula still gives the correct calculation of the total of the items.
9. Save the clothes workbook and close Excel.

6.3 Naming Cells

The last activity used cell D1 to store the tax rate. A large spreadsheet may refer to many static pieces of information, such as tax rate, rent or wages. Rather than referring to specific cell coordinates, cells can be named. Naming a cell reduces the risk of error and makes formulas easier to read. In the clothing tax example, if cell D1 was named *TaxRate*, the formula to calculate the tax for the dress could be:

`=B3*TaxRate/100`

To name a cell, first select it, then press the **applications key** and **a**. The "New name" dialog appears, with the focus in the name field, ready to give the cell a name. If there is a nearby cell which is likely the "label" for the current cell, Excel will suggest this for the name. Names cannot have spaces in them.

The dialog also has the option to set the scope of the name. The scope allows a name to be referred to only on the current sheet or across the whole workbook. The dialog also has space for a comment.

Let's use some named cells to calculate taxi fares now:

Activity: Named cells.

1. Open a blank workbook in Excel.
2. In cell A1, write the title "Taxi fare calculator". In A2, write "Flag Fall" and in B2 write 2.
3. In A3, write "Per minute" and in B3 write 1.5.
4. Move to B2, press the **applications key** and then **a** to choose "define name". Excel suggests "Flag_fall". Press **enter** to accept this.
5. Move to B3, press the **applications key** and then **a** to choose "define name". Excel suggests "Per_minute". Press **enter** to accept this.
6. In row 5, write the headings "Length" and "Cost". In A6, type 5, in A7, type 20 and in A8, type 60.
7. Move to B6 and type the formula:

=Flag_fall + (A6 * Per_minute)

8. Press **control+enter** to update the cell contents and read the value. Copy this formula to B7 and B8.
9. Examine the costs of the different trip lengths. Save the workbook as "taxi". Either close Excel, or continue to the bonus task.

Bonus Task:

- Work out the cost per person in each trip if there were two people (column C) or four people (Column D).
- Under flag fall, add another row, showing a cost of \$1 for each toll road.
- When calculating the cost of each fare, include two toll roads.

6.4 Named Ranges

Named ranges work the same way as individual named cells. To set a named range, select a range of cells, press the **applications key**, then press **a** to choose "Define Name". In the "New Name" dialog which appears, set the name, scope and comment, the same as naming a single cell. Press **enter** to save and close the dialog. To refer to the range, type its name instead of a cell range. For instance, "=sum(sales_data)".

To view named cells and ranges and edit details such as name and scope, press **control+f3** to open the name manager. In the name manager dialog, press the **up** and **down** arrows to move through the items and **enter** to edit an item. Press **alt+f** to filter the entries shown, which can be useful if there are a lot. Press **alt+n** to create a new named cell or range, and **alt+d** to remove the currently selected item.

In the earlier coffee activity, each formula referenced the same range of cells. A named range would be easy to reuse across formulas, and easy to read. This makes errors in formulas less likely to occur.

Named ranges with a scope of "workbook", also make referring to other worksheets easier. Without named ranges, refer to other sheets by sheet name, then an exclamation mark. To refer to A1 on the "Data" worksheet, write: `=Data!A1`. If the worksheet name has a space in it, enclose the sheet name in single quotes: `= 'January Sales'!A1`. If referring to a range, write the sheet name only at the start: `= 'January Sales'!A1:B5`.

The next activity starts to give less direction on which specific cells to use for formulas. Read through the activity and consider the most suitable layout before beginning. The activity creates a record of exercise to help get fitter. It records the number of minutes of activity done each morning, afternoon and evening. Let's use a named range and perform some calculations:

Activity: Named ranges

1. In a new workbook, add a title "Exercise record" to the first sheet. Under the title, create headings for the days of the week from "Monday" to "Friday". Also create headings for "Morning", "Afternoon" and "Evening".
2. Set appropriate row and column headers.
3. Record the following minutes of exercise:
 - Monday morning: 30
 - Tuesday afternoon: 50
 - Wednesday evening: 15
 - Friday morning: 40
4. Select the block of cells from Monday morning to Friday evening. Press the **applications** key and then **a** to choose "Define name".
5. Name the range "Exercise", ensure the scope is "Workbook" and press **enter** to save the name.
6. Name the current worksheet "data". Create a new worksheet and call it "calculations".
7. Add four labels: "weekly total", "daily average", "shortest session" and "longest session".
8. For each of the labels created in the previous step, write the formula in an adjoining cell. Note that the daily average calculation will be the total minutes divided by the number of days.
9. Save the workbook as "exercise". Either close Excel or continue to the bonus task.

Bonus Task:

- Calculate the average minutes of exercise per month.

- Calculate how much exercise to do on the weekend to bring the daily average up to 30 minutes a day.

6.5 Using the Elements List

NVDA's elements list is used on the web to navigate links, headings and landmarks. In Excel, the elements list moves to charts, comments, formulas, form field and sheets. To open the elements list, press **NVDA+f7**. Unlike in a web browser, the elements list can be opened in either browse or focus modes in Excel. When the elements list opens, the focus is on the tree view in the last type that had focus.

To access sheets in the elements list, press **alt+s**, then press **tab** to the list of sheets. The focus is on the current sheet. Use **up** and **down** arrows to move through other sheets in the workbook. Once a sheet is selected, press **enter** to close the elements list and move to the chosen sheet.

To access formulas in the elements list, press **alt+r**. Next, press **tab** to move to the tree view which contains the formulas used on this sheet.

The tree view lists the formulas in alphabetical order of the formulas themselves. The cell reference is in front of each formula, for instance:

F3 =SUM(A3:D3)

Press the **up** and **down** arrows to move through the list. Press the first letter of a cell reference to jump between formulas beginning with that letter.

Press **tab** or **alt+f** to move to the filter edit. When text is typed in this edit, the tree view will update to only contain results that contain the text in this edit. If the filter contains "AVERAGE", the tree view only shows formulas which with "AVERAGE" in them. If the filter contains "G4", the tree view will show formulas which either refer to cell G4, or are in that cell.

Using find is another way to locate a specific formula on a worksheet. Press **control+f** and type the search query. Press **alt+t** to ensure more options are visible and press **tab** to move through the options to "Look in". If "formulas" is chosen, Excel will look for a formula with the specified text. If "values" is chosen, Excel will look for a cell value which matches the text. If D1 had the value "4" and D2 had the formula "=D1+2", searching for "6" in formulas would not return D2. The value of D2 in this example, is 6, so searching for "6" in values would find D2. In this case, searching for "2" in formulas would return D2 as there is a "2" in the formula.

Let's reopen the "Exercise" workbook and explore it using the elements list now:

Using the elements list

1. Open the "Exercise" workbook in Excel.
2. Press **NVDA+f7** to open the elements list dialog.
3. Press **alt+s** to select "sheets" and then **tab** to move to the tree view.

4. Use the **up** and **down arrows** to move between sheets. Select the "Calculations" sheet and press **enter**.
5. Press **NVDA+f7** to open the elements list again.
6. Press **alt+r** to select "formulas" and press **tab** to move to the tree view.
7. Use the **up** and **down arrows** to explore the formulas on this sheet.
8. Select one and press **enter** to move the focus to it.
9. Close Excel without saving, or else continue to the bonus task below.

Bonus Task:

- Open the elements list again and use the filter to show only formulas with "SUM".
- Use the elements list to move back to the "Data" sheet. Then, use the elements list to find out whether there are any formulas on that sheet.

6.6 Inserting Formulas

As well as typing formulas, Excel includes a dialog which can help enter functions. Press **shift+f3** to open the "Insert function" dialog. When this dialog opens, the focus is in the "Search for a function" edit field. Type a brief description of what you want to do and then press **enter**. The focus moves to the list of functions.

Visually, a description of the selected function appears under the list of functions. The easiest way to get to this is by pressing **tab** to move to the "help" link, then move to the previous object. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move to the previous object. Move to the previous object a second time to read the syntax of the function, that is, how to write it.

When the focus is on the "Help" link, press enter to open help in the web browser. This will provide more information about the current function.

Turning "Focus moves navigator object" off can help when reading many list items. First, move the focus to the description of an item, then press **NVDA+7** to turn "Focus moves navigator object" off. Next, use the **arrow keys** to move through the list of commands. The navigator object does not move; it is still in the description of the current function. Press **down arrow**, then press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to read the current navigator object. Reading the current navigator object reads the description of the selected function. Be sure to turn "focus moves review cursor" back on when finished.

With a formula selected, press **enter** to open a new dialog to enter the arguments for the function. Arguments for a formula are what the formula will calculate. In the formula "**=SUM(A2:A5)**", "sum" is the function, and "A2:A5" is the argument.

The "Function arguments" screen also has descriptive text which can be useful to read. Once again, use object navigation to read this descriptive text.

When the dialog opens, the focus is on the first argument field, ready to type a value. If the function does not take arguments, the dialog box text will state this. If there are no arguments, press **enter** to close the dialog.

For functions with arguments, move to the previous object to read the instructions. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move to the previous object. NVDA reads the instruction for the first argument. Press **NVDA+7** to turn "Focus moves navigator object" off. Type the first argument, then press **tab** to move to the second argument. Press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to read the explanation for the second argument. Before pressing **enter** to insert the formula, press **NVDA+7** to set "Focus moves navigator object" back on.

If a function is known, typing it into the cell can be quicker than using the "Insert function" dialog. Where a function takes more than one argument, type them separated with commas. For instance, `=randbetween(10,20)` will return a random number between 10 and 20.

The next activity will use the Insert Function dialog to insert the current date. The result of the formula used to get the date will update to the current date each time the file is opened. Let's explore the dialog and the function now:

Activity: Inserting formulas

1. In A1 on a blank worksheet, write "Today is:", then move to A2.
2. Press **shift+f3** to open the Insert function dialog.
3. Type "current date" and press **enter**. The focus moves to the "Date" function in the "Select a function" list.
4. Press **tab** then **NVDA+numpad 4** (Laptop: **NVDA+shift+left arrow**) to read the description for the round function.
5. Press **NVDA+7** to turn "Focus moves navigator object" off to keep the review cursor on the description.
6. Press **down arrow** to move through the list of functions. For each function, press **NVDA+numpad 5** (laptop: **NVDA+shift+o**) to read the description. After reading about a few functions, return to "Today".
7. Press **NVDA+7** to turn "Focus moves navigator object" back on. Then, press **enter** to choose the Today function.
8. The function arguments dialog appears, advising that this function takes no arguments. Press **enter** to close the dialog. Read the returned value.
9. Close Excel without saving changes or else continue to the bonus task.

Bonus Task:

- Calculate the date in one week.
- Find a formula to return the current week number.
- Find a formula which returns the current time, including the minute. Save the file, then reopen it a minute later and confirm that the time updates.

6.7 Joining Functions and Text

Sometimes you might want a cell to contain several pieces of information. To include normal text in a cell with a formula, enclose the text in quotation marks ("). To join text with the result of a formula use an ampersand (&). The following formula adds the word "hours" after a reference to a cell on another worksheet:

```
=Employee Leave!B1 & " hours"
```

If the cell with the total has the name "Leave", the formula is even easier to read:

```
=Leave & " hours"
```

The reason for the space before the word "hours" is for readability of the result. The cell value will be "95 hours" rather than "95hours".

Showing how many full days the hour of leave equates to may make the output of the cell even more readable. For instance: "95 hours (12.5 days)".

The formula could do the calculation itself, such as:

```
=SUM(B2:B10)&" hours ("&SUM(B2:B10)/7.6&" days)"
```

This formula takes the hours of leave from B2:B10 and assumes a standard workday of 7.6 hours. Although this formula is correct, it is complex to read. It is also easy to make errors. A neater solution is to perform calculations in named cells and refer to these named cells. Having the calculation of days in a separate cell would make the formula clearer and easier to read.

Assuming the number of hours in a day is in the named field "Day length", the formula is:

```
=Leave & " hours (" & Leave / Day_length & " days)"
```

or without extra spaces:

```
=Leave&" hours ("&Leave/Day_length&" days)"
```

Let's try this now:

Activity: Joining functions and text:

1. Open a blank workbook.
2. In Cell A1, write "Employee".
3. In Cell B1, write "Leave".
4. Add labels for employee leave and daily hours.
5. Put the value "95" in the cell next to the employee leave label and "7.6" in the cell next to the daily hours label.
6. Name the cell with the employee leave value in it, "Leave". Name the cell with the daily hours "Daily_Hours".
7. In a suitable cell, write the formula:

=A1 & " " & A2 & " total:"

8. Next to the "leave" label, add a formula to show the amount of leave so that the value shown is:

12.5 days (95 hours)

9. Save the workbook as "Employee leave" and close Excel.

6.8 Exploring Functions

Excel includes many more functions than can be covered in this module. Browse the insert function dialog by category to learn about the range of functions.

Press **shift+f3** to open the dialog, then press **tab** twice to move to the "Select a category" drop down list. The list contains 15 categories, including most recently used, and all.

Financial functions calculate interest rates, yield, depreciation and settlement dates. An account with a nominal compound interest rate of 10%, calculated monthly, has an effective yearly interest rate of `=EFFECT(10%,12)`. The "EFFECT" function returns a value of 10.47%.

Date & Time functions convert dates to various formats and return information about time. The day of week or week of year can be obtained, as well as the difference between dates. To find out the current week number of the year (there are up to 53) use the `=WEEKNUM(TODAY())` function.

Math & Trig functions include functions for Converting numbers, rounding and random numbers. Converting between base values, angles, factorials, lowest common denominator, are all possible. Advanced trigonometric functions, such as sin and cos variations, are available. A plumber, who bills in 15-minute blocks, could use `=CEILING(38,15)` to get the billable minutes for a 38-minute job.

Statistical functions include the average and count used already. Also included are calculations for groups of numbers, growth, distribution tables and variance. With invoice month in column A, the number of January invoices is `=COUNTIF(A:A, "January")`.

Lookup & Reference includes functions for working with cell references. Functions include getting column or row or creating an address from row and column values. Information can also be found from an array. `=ADDRESS(7,5)` will return the text string address "\$E\$7" (the 5th column and 7th row). If this formula was in cell D8, the formula `=INDIRECT(D8)` would return value that is in E7. If a cell contains `=D8`, it would only display "\$E\$7", not the value that is in E7.

Database functions can extract data from ranges of cells like conditional Statistical functions. Database functions use database formatting, such as column names. Column A may have "Month", column B has "Company", and column C has "invoice amount". In another block, cell E1 has the label "month", E2 has "March", F1 has "company" and F2

has "abc". The formula =DSUM(A1:C9,"invoice",E1:F2) returns the total invoice amount for company "abc" from March. The formula is the same as: =SUMIFS(C2:C9, A2:A9, "March", B2:B9, "abc").

Text functions manipulate text strings. Functions can extract part of a string, join strings or perform string calculations. Text functions also include converting between numbers and strings and searching within strings. With "The quick brown fox jumps over the lazy dog" in D4, then =FIND("fox", D4) returns 17. In this case, the word "fox" starts at character 17 in the text in cell D4. Using another text function, the formula =LEFT(D4,FIND("fox",D4)-1) it will show *The quick brown*. The Left function takes two arguments, the text (in D4) and the number of characters to keep from the start.

Logical functions include "and", "if" as well as "or". Logical functions evaluate values or other functions. The formula =if(sum(B2:B5) > D3, "High", "Low) uses the logical function "If". The formula check to see whether the sum of B2:B5 is greater than the value of the cell D3. If the comparison is true, the cell displays the word "High", otherwise, it displays the word "Low".

Information functions return information about a cell. ISBLANK(A1) indicates whether there is anything in cell A1. ISEVEN(A1) advises whether the value of cell A1 is an even number. ISFORMULA(A1) returns whether A1 has a formula. Functions can also return information about the current worksheet or file. =INFO("directory") will return the directory of the current file, for instance.

Engineering functions can return Bessel functions, convert base numbers or perform bit shifting. The function =DEC2BIN(27) will return 11011. "DEC2BIN" converts the decimal number 27 into a binary number.

Cube functions provide a way of accessing data from an analysis service data source without using a pivot table. For instance, =CUBESETCOUNT(set) returns the number of items in the cube set.

Compatibility functions are functions which have been replaced or removed. They remain in Excel for compatibility only. Avoid using them where possible.

Web functions return data from web services.

These functions are also available in categories from the ribbon. Press **alt+m** to open the formula ribbon. The first option opens the "Insert function" dialog. Following this are items which have sub-menus containing the functions from each category. There is also a heading for recently used functions which is **alt+m** then **r**.

Let's explore some of the functions now:

Activity: More Functions

1. Open Excel to a blank workbook.
2. In any cell, press **shift+f3** to open the "Insert Function" dialog.
3. Press **tab** twice to the "select a category" list.

4. Press the **down arrow** to choose the first category, "financial".
5. Press **tab** to move to the "Select a function" list.
6. Arrow through the list, using the steps from the previous "Insert Formula" activity. Investigate and get help on several formulas.
7. Press **shift+tab** to move back to the "select a category" list. Repeat steps 4 - 6 to investigate each of the remaining categories.
8. Press **escape** to close the dialog.
9. Close Excel without saving.

6.9 More Functions Review

This section covered some of the advanced features of working with functions. Topics included:

- Absolute and mixed references
- Naming cells and ranges
- Inserting formula
- Joining functions and text
- More functions

Activity: More functions review

1. Open your Excel journal. Select the range A3:E3 on the formula sheet and name it "Data". Create a new sheet called "More functions" and write that name in cell A1.
 2. In row 2, write an appropriate label and a formula to show the number of sheets in the current workbook.
 3. In the formula worksheet, insert a new column before column C. Add another value to the "data" cells, in C3, add the number "2".
 4. In C6, add the heading "Length of notes". In C7 to C12, add formulas to count the length of the text in the Notes cell to the right.
 5. Return to the "More formulas" sheet. Write a label and formula to calculate the total number of characters in the notes column of the formula sheet.
 6. Write a formula which displays "A plus B equals C". A is the sum of "data", B is the average and C is the sum plus the average. So, if sum is 10 and average is 2, it would display "10 plus 2 equals 12". It may be worth putting the calculation in a separate cell, to refer to again next step.
 7. Write a label and a formula to round up the result from the previous step to the next multiple of 20. If the value is 15, it should round up to 20, if the value is 21, round up to 40, etc.
 8. In a suitable place, write an explanation of what **shift+f3** does. Write the steps to use it to insert the "COUNTA" function.
 9. In an appropriate cell, explain which ribbon the functions are on. Write the keystrokes to access the "Math and trig" functions from the ribbon. Save the journal and close Excel.
-

7 Formatting

The aim of this section is to cover formatting cells and information. As well as changing the visual appearance, this also affects the presentation of data. This section also includes conditional formatting. Conditional formatting is modifying the formatting of cells based on their contents.

Goals for this section:

- Number categories
- Wrapping text
- Merging cells
- Alignment
- Cell width and height
- Appearance of cells
- Conditional formatting

7.1 Automatically Formatting Numbers

The way Excel displays numbers can be changed while keeping the underlying value unchanged. A decimal number such as 1.352 is used for calculations. The user can see data in a more logical manner than a decimal number, such as "135%", "\$1.35" or "8:26 AM".

Excel can recognise many number types correctly while typing. Some include:

- Currency: for instance, €12 \$12
- Date: 31/12/2017 or 31-12-2017 or 31 December 2017
- Time: for 2 pm type 2:00 PM or 14:00
- Percentages: for 12 percent, type: 12%

Some number formats are formatted differently between regions. Dates and currency can change from one country to another. Formatted numbers can be calculated like other numbers. Depending on the number type, the results may or may not work as expected. Times and Dates use specific formats behind the scenes. Times and dates may not work predictably with all calculations, for instance 01/01/2018 * 10:00 PM. Excel's "Date and Time" functions are designed to calculate dates and times.

Automatic formatting of percentage is particularly useful. A previous activity used the calculation:

$\text{cost} * \text{tax rate} / 100$

The activity used a human-readable number "9", to mean 9%, which then needs to be divided by 100. Setting the tax rate as "9%" is readable and can be used in the formula $=\text{cost} * \text{tax rate}$. Not needing to divide by 100 is simpler and so less prone to errors.

Let's format some numbers now:

Activity: Automatically formatting numbers

1. Open a blank Worksheet
2. In A1, type \$20 (If needed, replace the dollar sign with your local currency symbol).
3. In B1, type 50%.
4. In C1, type =A1*B1
5. Move back to A1 and press **f2** to go into edit mode. Note that the value is "20" which displays as "\$20".
6. Move back to C1 and note that the value is automatically displayed as a dollar amount.
7. In A2, write 01/01/2017. In B2, write =A2+1. The value displays as "02/01/2017" or "01/02/2017", depending on your region settings.
8. In C2, type =B2*C1. Calculating a date by a dollar value gives a consistent, but meaningless number.
9. Close Excel without saving.

7.2 Manual Number Formatting

Numbers can be manually formatted using keystrokes. For the following, the example number "12345.67" is used:

- **control+shift+1** formats as a number with two decimal places and thousands separators. 12345.67 appears as "12,345.67".
- **control+shift+2** formats as time. 12345.67 is shown as 4:04:48 AM on 18 October 1933 and appears as "4:04 PM".
- **control+shift+3** formats as a date. 12345.67 displays as "18-Oct-33".
- **control+shift+4** formats as currency. 12345.67 appears as "\$12,345.67".
- **control+shift+5** formats as a percentage. 12345.67 appears as "1234567%"
- **control+shift+6** formats as a scientific value. 12345.67 appears as "1.23E+04".

There are several shortcuts on the Home ribbon as well.

Press **alt+h**, then **9** to decrease the number of visible decimal places by one. Press **alt+h**, then **0** to increase the number of decimal places by one. Press **alt+h**, then **a** then **n** to open the accounting number submenu. The accounting number submenu includes some of the major currencies. Press **alt+h**, then **n** to move to the number format edit. The number format edit reports the current number format of the selected cell(s). With the number format selected, press **down arrow** to move through some of the main number formats. The number format combo box includes extra options such as short and long date formats.

Let's try some of the shortcut keys and explore the cell format dialog now:

Activity: Manual number formatting

1. Open a blank workbook.

2. In A1, type 56.789 and press **shift+enter**.
3. Press **control+shift+4** to convert to currency format and note the change. As well as the currency symbol, the number display is rounded to two places.
4. Press **control+1** to open the cell format dialog and press **tab** to move the focus to the category list. Note that "Currency" is already selected.
5. Press **tab** to move focus to the decimal place field.
6. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) twice to move the focus back to the sample. NVDA should read "\$56.79" or similar.
7. Change the decimal value different values and read the sample each time. Try setting it to 3, and then to 0.
8. Press **enter** to accept the change to 0 decimal places. The display of the number changes to "\$57". The underlying number is still "56.789".
9. Close Excel without saving changes.

7.3 Format Cells Dialog

Number formatting can be customised via the Format Cells dialog. Press **control+1** to open the format cells dialog. The focus starts on the last tab which had focus, initially the "number" tab. Press **control+tab** to change tabs.

On the number tab, press **tab** to move to the "Category" list. The category list contains the formats covered in the previous topic. There are several other formats: general, fraction, text, special and custom.

"General" is how cells are initially presented, with no special number formatting.

"Fraction" converts partial numbers (after the decimal point) as fractions. 12345.67 presents as 12345 $\frac{2}{3}$ as .67 is (rounded to) $\frac{2}{3}$ of 1.

"Text" treats numbers as text. By default, numbers are right aligned visually in a cell and text is left aligned.

"Special" formats are for track list and database values which are covered later.

"Custom" allows numbers to be formatted using code.

For most of the number types, pressing **tab** moves from the category list to the options for that number type. For "number" type, the number of decimal places and the display of the thousands separator can be set. For currency, the decimal places and the currency symbol can be set, as can the exact format for dates.

A sample shows how each option will affect the contents of the current cell. Use object navigation to reach the sample text in the same way as for the insert function dialog. Press **tab** to move to the first option, such as the decimal places edit in the number format category. Next, press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move the focus back to the sample information. If desired, turn "Focus moves navigator object" off. The review cursor stays on the sample field so comparing the effects of changes is easier.

Let's explore the Format Cells dialog now:

Activity: Format cells dialog

1. Open a blank worksheet.
2. In A1, type the number 123.456 and press **shift+enter**.
3. Read the cell, then press **control+1** to open the "Format cells" dialog.
4. Ensure the focus is on the number tab (press **control+tab** if needed). Next, press **tab** to move to the "Category:" list.
5. Press **down arrow** to move the focus to "number".
6. Press **tab** to go to "decimal places", the first option for "number". Note that the value is 2.
7. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) twice to move to the sample. NVDA reads the number rounded to two decimal places: "123.46".
8. Press **enter** to save the setting. Read the cell containing the number again and note the change to the format.
9. Close Excel without saving or else continue to the bonus task.

Bonus Task:

- Set the cell to use fraction "up to two digits".
- Copy the cell to B1. Edit B1, note the actual value and copy it. Paste the text only in C1. Note the number format used in the three cells.

7.4 Wrapping Text

Each row is the height of one line of text. Where text is wider than will fit in a cell, and the cell to the right is empty, the text visually flows into that cell. NVDA announces "overflowing" when text flows into the adjoining cell. If the cell to the right is not empty, NVDA announces "cropped". When Excel crops text, only the text which fits before the right edge of the cell is visible.

When "wrap text" is set, text which is wider than the cell will flow onto a second line. If needed, the text will keep flowing down onto more lines. The whole row of cells will resize if needed to the height of the tallest cell in the row.

Wrap text is useful when the text in several cells from the row will fit on a similar number of rows. A worksheet will look strange if one cell is ten lines high and the rest on that row are only one line high.

To toggle wrap text in a cell, press **alt+h** then **w**. To toggle wrap text for more than one cell, select all required cells, before pressing **alt+h** then **w**. Wrap text will be set either on or off for all selected cells at once.

Wrap text adjusts the height of the current row if needed, to ensure it is high enough to display all the text in a cell. There is a ribbon option to set the height of the row. Setting the row height can be useful to add blank space in a worksheet without adding blank rows. NVDA does not warn if the row height is set too small for all the text to be visible.

To set or check the current row height, press **alt+h** then **o** for format, then **h** for row height. A dialog appears with the current row height in the default measurement unit. Editing the current row height changes it for the current row or any selected rows.

Let's explore row height and wrapping text now:

Activity: Wrapping Text

1. Open a blank workbook.
2. Press **alt+h** then **o** then **h** to open the row height dialog.
3. Read the value (press **up arrow** or read the current line), then press **escape** to close the dialog.
4. In A1 type "Default", in B1 type your full name, in C1 type *1234567890* and in D1 type *This is a test sentence*.
5. Press **shift+space** to select row 1.
6. Press **alt+h** then **w** to turn on Wrap Text.
7. Repeat steps 2 and 3 to read the current row height and note how much bigger it is. Based on the difference in size, how many lines are in row 1 now?
8. Move to A1, press **f2** to edit and use the **up** and **down arrows** to read each line in the cell. If NVDA reads the same thing each time then the contents only take up one line.
9. Edit and read each line of B1, C1 and D1. Save the workbook as "cell sizes".

Bonus Task:

- Work out the height of one row of text. Set the row height to fit two lines of text.
- Work out how roughly many characters you can fit in a cell before it wraps or overflows? Note that in most fonts each character is a different width, so this can only be an estimate.

7.5 Column Widths

In a new worksheet, columns are all the same width. The exact width varies depending on the version of Excel and the PC setup. There is usually enough room to fit about 8 characters at the default size. Characters in most fonts are not a fixed width so exactly how many fit in a cell varies. If the cell to the right is empty, any text which is wider than the cell will overflow into it. If the cell to the right is not empty, any overflowing text will crop at the right edge of the cell.

The previous topic covered wrapping text as one solution to fitting more text in a cell. Another option is to make the cell wider. Press **alt+h** to open the home ribbon, then **o** for format. Press **i** to autofit the width of the column to the contents of the current cell. Press **control+spacebar** to select the whole column. Finally, select autofit width to ensure the column is wide enough for the largest text. As with adjusting cell height, Autofit will set the width of all columns selected. Autofit ignores any cells with "wrap text" enabled when resizing columns.

To resize the width of a cell, press **alt+h** then **o** then **w**. The cell width dialog opens with the focus on the current width. If the width does not read, press the **down arrow** to read it. Edit or delete the current number and type the new value. Press **enter** to accept the width.

Using autofit for height and width on a whole worksheet can ensure all contents are visible. Press **control+a** until the entire sheet is selected. Next press **alt+h** then **o** then **a** to autofit height. Autofit height ensures that any cells with wrap text are high enough. Finally, press **alt+h** then **o** then **i** to autofit width. Autofit width ensures that all columns are wide enough.

Let's explore column widths now:

Activity: Column widths

1. Make sure the "cell sizes" workbook is open from the previous activity.
2. Move to cell A2, press **alt+h** then **o** then **w** to open the column width dialog and read the width of the current column. Press **down arrow** if needed to read the value.
3. Press **escape** to close the dialog and type the width in A2.
4. Move back to row 1. Press **shift+space** to select the first row and ensure that Wrap Text is not on. Refer to the previous topic if needed.
5. Press **alt+h** to open the Home ribbon, then press **o** to choose "Format", then **i** to select "Autofit Width".
6. Move to cell B2, then press **alt+h**, then **o**, then **w** to open the column width dialog and read the value.
7. Press **escape** to close the dialog and write the current width in B2.
8. Read the column widths for columns C and D and note the widths in C2 and D2 respectively.
9. Save the "Cell sizes" workbook.

Bonus Task:

- Select the whole worksheet, and set the width to the widest width identified in this activity.
- Set row 1 to be two rows high and autofit width to ensure all contents are visible. To do this: Select row 1 and set the column widths back to the default. Next, set the row height to two rows high, then set the column widths back to autofit contents.

7.6 Merging Cells

Merging cells joins two or more cells to act as a single cell. When navigating through merged cells, the focus moves as logically as possible. With C3 and D3 merged, if pressing down arrow through column C, focus moves from C2, to the merged cell, then to C4. When pressing **down arrow** through column D, the focus moves from D2, to the merged cell, to D4.

To merge cells, press **alt+h** then **m** to open a menu of merge options. The options are: Merge and Centre, Merge across, Merge cells and Unmerge cells.

Merge and Centre will combine all the selected cells into one. The contents of the first cell are centred horizontally. The vertical alignment is not changed; this is bottom by default.

Merge across, merges all the selected cells on each line. If C2:E4 are selected, Merge across creates a merged cell of C2:C4, one of D2:D4 and a third of E2:E4.

Merge cells works the same as merge and center, except the alignment of the cells is unchanged. The contents and alignment of the top left cell are retained.

Unmerge splits any cells in the selection which were already merged.

When selecting cells, if part of a merged cell would be selected, the selection expands to cover the whole merged cell. With the focus in C1, pressing **shift+down arrow** would usually select C1:C2. With C2:D2 merged and the focus in C1, pressing **shift+down arrow** will select C1:D2. Let's create an address book and center the heading across the width of the columns in the book now:

Activity: Merging cells

1. Open a blank worksheet.
2. In B2, type *My address book*.
3. In B3, type *Name*, in C3, type *address* and in D3, type *phone*. Set B3 as the start of column headers.
4. Select B2:D2.
5. Press **alt+h** then **m** for "Merge".
6. Press the **down arrow** to move through the options. Press **enter** when the focus returns to "Merge and center". NVDA reports "My address book B2 through D2".
7. Press the **left arrow** to move to A2. Press the **right arrow** to move to the merged cell and then to E2.
8. Move to cell B1, then navigate down past the merged cell to row 3. Move across to D3 and then up through the merged cell to row 1.
9. Save the file as "Address book". Either close Excel, or continue to the Bonus Task.

Bonus Task:

- Add a new header in E3 for "Birthday". Use "Merge cells" to expand the merged cells B2:D2 to include E2.
- Select column A and delete it. Select row 1 and delete it. Add some names and addresses to the spreadsheet before saving and closing.

7.7 Appearance of Cells

By default, each cell is white with a thin black border, and the text in the cells is also black. The default font and font size vary depending on the version of Excel. In Excel 2016, the default font is Calibri, and the size is 11pt. It is possible to change the font, size, colour and background colour, using the ribbon. Changing font properties and background colour work like in many other programs. Press **control+b** to bold, **control+i** to italicize and **control+u** to underline text. Keystrokes work either on whole cells with one or more cells selected, or when editing a cell. Excel only passes the formatting of the first character in a cell to NVDA. While it is possible to change formatting within a single cell, this is not usually required. Formatting whole cells rather than parts of text in a cell helps ensure consistency.

By default, Excel aligns cells with text to the left and cells with only numbers to the right. It is possible to align cells left, centre or right. The vertical alignment of text in a cell can be set to either top, medium or bottom. Setting vertical alignment is very useful where a row is more than one line of text high.

Indent of text can also be changed from the ribbon, or on font alignment page of the format cells dialog. Increasing indent moves the contents of the selected cell(s) to the right by one character. The cell itself stays the same size. If the cell contained a number, it is now left aligned and indented. If the cell was manually right aligned, the contents move one character to the left. Decreasing indent removes the indent by one character. If the cell was not indented, decreasing indent does nothing. Press **control+1** to open the format cells dialog, then control+tab to move between pages.

Press **alt+h** to open the home ribbon, then press **control+right arrow** once to move to the "Font" group. Press **control+right arrow** a second time to go to the "alignment" group.

Cells have a thin black border by default. Cell borders can be changed or removed. Press **alt+h** then **b** to open the border options. Border options include the bottom, top, left and right. No border, all borders and outside border are also available. Thick outside border is often used to denote edges of data. A bottom double border is common for calculation rows. Both thick outside border and bottom double border are options on the Ribbon. Other styles such as colour, thickness or style are set from the border page of the format cells dialog. Changes to border options affect any cells selected at the time. If B2:C3 are selected, choosing "Thick outside borders" affects the outside of this block of cells. B2 will have thick top and left edges. C2 will have thick top and right edges. B3 will have thick left and bottom edges and C3 will have thick right and bottom edges. The borders page of the format cells dialog has more options. As well as "outside" borders, the "inside" borders can also be selected. In the B2:C3 example, the inside edges are the line between column B and column C, and the line between rows 2 and 3. Cells can have diagonal up or down lines through them, which is mostly used to "cross out" the cells.

Press **alt+h** then **h** to access the "Fill colour" option in the ribbon. Fill colour fills the selected cell(s) with the chosen colour. The "fill" page of the format cells dialog has options for patterns such as crosshatch or stripes. Fill effects such as gradients are available. Gradients transition from one colour on one edge, to another on the opposite side. Both colours are selectable for fill effects or patterns.

Fill colours and borders can highlight a block of data. Highlighting data may be useful for an area with calculations. Font colours and backgrounds can also distinguish data which a user can edit. It is, of course, important not to rely on visual cues alone to convey meaning.

Text can also be rotated in cells. Headers sometimes use this so that a long heading name does not widen a column of small numbers. Rotating text can make it harder to read.

Like other Microsoft Office programs, Excel includes a "Themes" feature. Changing theme can change the appearance of the whole workbook at once. Themes may include default colours and fonts. There is more detail on specific theme options in the "Microsoft Word for NVDA" module. Press **alt+p** to open the "Page Layout" ribbon, then press **t** then **h** to open the "Themes" dropdown. Press **tab** to move through the options. Each theme may change the default colours and fonts used in the Workbook.

To change the colours only, press **alt+p** then **t** then **c** to open the colours dropdown.

To adjust the font family used without changing themes, press **alt+p** then **t** then **f** to open the Fonts combo box.

It is possible to clear formatting without removing the formula or values in cells. Select the cell or cells with formatting to be removed. Press **alt+h**, then **e**, to open the "clear" menu. Finally, press **f** to clear formats. All formatting, including colours, borders, alignments, number formatting and indents will be removed. The "clear" menu also includes clearing all, clearing contents only, comments or links.

Activity: Appearance of cells

1. Open a blank worksheet.
2. In A1, write the heading "Time Calculations". In B2 to D2, write the headings "seconds", "minutes" and "hours". In A3 to A7, write the headings "minute", "hour", "day" and "year".
3. Set B2 as the start of column headers and A3 as the start of row headers.
4. Select A1:D7, which will hold all the data.
5. Press **alt+h** to open the home ribbon, then **tab** to the "border" item.
6. Press **alt+down arrow** to open the border option. Next, **down arrow** to "thick outside borders" and press **enter**.
7. Open the home ribbon again, navigate to "Fill colour" and select "blue, accent 1, lighter 80%".
8. Navigate to D7 and press **NVDA+f** to read the formatting information. Read the formatting information for C5, B8 and A2 as well and note the differences in the border.
9. Save the workbook as "Time".

Bonus Task:

- Fill in B3 (the number of seconds in a minute). Using formulas which reference nearby cells, fill in the rest of the cells from B3:D7.

- Merge and Centre A1:D1 and make the formatting different to the rest of the sheet. Change any combination of the font, colours, border, etc.
- Change the formatting of the headers (row 2 and column A).

7.8 Conditional Formatting

Conditional formatting allows the appearance of cells to change based on their contents. Conditional formatting can highlight cells which contain exceptionally high or low values. Cells with specific content can also have conditional formatting applied to them.

Press **alt+h** to open the home ribbon, then press **l** for conditional formatting. The conditional formatting menu contains set rules and the ability to create rules.

"Highlight Cell Rules" has options to highlight cells based on their value. Choices include: greater than, equal to, or containing specific text. Once selected, a dialog appears. Type the value to trigger the conditional formatting in the edit box. Next, select the options for formatting to use from a drop-down list.

"Top and Bottom rules" works the same way. The rule works on the top or bottom number of items or percent, or values below or above the average. Again, select the formatting from a drop down list.

"Data bars" will highlight each cell based on value. The lowest value has a small amount of colour on the left. The highest value cell is filled in the selected colour.

Colour scales are like data bars, except each cell is completely shaded. The highest value fills with the first colour, and the lowest value fills with the second colour. Intermediate values have a solid fill partway between the two colours. In the "Green, Yellow, Red" colour scale, the highest value will be red, and the lowest value will be green. Middle values will range through orange-red, orange, yellow and yellow-green.

Icon sets work like colour scales, with each cell having a small image after its value. The lowest value might have a red traffic light, and the highest value might have a green traffic light. When using icon sets, one of the 3 to 5 icons from the selected set appears next to every item. There are no gradients.

When changing the text or background colour, NVDA's document formatting can identify changes. Having NVDA report formatting changes can help when proofreading cells with conditional formatting.

Basic conditional formatting rules only work on numeric values, ignoring text values. There is an option to write rules completely from scratch using formulas. Rules based on formulas can be detailed and rely on other cells. Press **alt+h**, then **l**, then **n** to create a new rule. Press **end** to move to the bottom of the list, "Use a formula to determine which cells to format". Press **tab** to the "Format values when this formula is true" edit. Type a formula. Note that if you press a navigation key, a reference to the cell the focus would move to is inserted into the formula. Press **f2** to go into "edit" mode to enable editing the formula. Press **tab** to go to the "format" button and press **enter** to open the

"Format cells" dialog. The format cells dialog specifies the formatting applied if the formula returns true.

For example, the formula:

`=A$1=123`

When applied to column B, this formula checks whether cell A1 contains the number 123. If it evaluates as true, the background colour changes to green. If the value of A1 is 123, the whole column B has the background changed to green. If A1 is not an absolute reference, the formula only tests the current cell in column A. In that case, B1 becomes green if A1 contains 123. B2 becomes green if B1 contains 123, etc.

To clear any rules, press **alt+h** then **l** then **c**. Next, choose whether to clear rules from the current selection or the whole worksheet. If using tables or pivot tables (covered later), there are also options to clear rules from these. Several rules can affect the one cell. One rule may change text based on one formula, and another fill colour for something else. Note that icon sets are not reported by NVDA's document formatting.

Activity: Conditional formatting

1. In a blank worksheet, write the heading "Goals this season" in A1. In A2, write "Player" and in B2 to F2, write the dates of the previous five Saturdays.
2. In A3, write "Mary", then across row 3 write the scores: 0, 1, 4, 3, 2. In row 4 write "Jane" and her scores of 2, 1, 0, 2, 3.
3. Press **NVDA+control+d** to open the document formatting dialog. Make sure "Colours" is checked and press **enter** to close the dialog.
4. Select the cells with data, B3:F4.
5. Press **alt+h** then **l** for conditional formatting.
6. Choose "Colour scales", then select the "Blue, white, red" colour scale and press **enter**.
7. Move through the cells in B3:F4. Note how the colours correspond to the number of goals each player scored in each game.
8. Edit Janes goals to change them to 6,3,0,2 and 5. Navigate around the cells now and note how the colours have changed.
9. Save the file as "goals".

Bonus task:

- Add a column for totals and formulas to show the total goals scored by each player in the season. Add a row to show the total goals scored each game.
- Select the "total goals each game" row. Open the Conditional Formatting ribbon item. From "Highlight cell rules", choose "Less than". In the dialog which opens, format cells which are less than "5" as "Yellow fill with dark yellow text".
- Change the names of the players from "Mary" and "Jane" to "Mary Peterson" and "Jane Smith". Adjust the column width of column A to "autofit column width". Set the row height of each row to 1.5 times its current value (if it is 10pt, set it to 15pt).

- Add a label "Player of the week" in D1, and in E1 write the name of one of the players. First, select the data cells and player names. Next, create a custom conditional formatting rule. Set the rule to change the border and font underline style and colour. The rule should be a formula which is true if the player's name in that row equals the name in E1. Note that you will need a combination of mixed and absolute cell references in your formula.

7.9 Formatting Review

This section covered some of the features available to format and present data. Topics included:

- Formatting numbers
- Using the Format cells dialog
- Wrapping text
- Adjusting column widths and height
- Merging Cells
- Changing the appearance of cells
- Using conditional formatting

Activity: Formatting review

1. Open your Excel journal.
 2. Add a new sheet at the end, name it "Formatting" and write "Formatting" in A1.
 3. Add a title "Number formatting". Under the title, add headings for each of the options in the "Number formatting" drop down list on the home ribbon. Using a different value for each, give examples in the correct formatting in an adjacent cell. Write a line in an adjacent cell explaining the properties of each format.
 4. In a separate place on the same worksheet, write the title "format cells dialog". Under this heading, note down each of the tabs in the "format cells" dialog. In the next cell include an explanation of what formatting you can change in each. Instead of explaining the "Protection" tab, note that it is yet to be covered.
 5. Set the columns containing explanations to be three times the normal width. Next, set those cells to use "wrap text".
 6. Select the title for the "Number formatting" block of data. Merge it to cover the width of the data it encompasses, then set its height to be twice the standard height. Repeat for the title of the "Format cells dialog" information.
 7. Set a border around each block of text, and set different colours for each of the sections.
 8. Apply conditional formatting to the number format examples. Choose the "red - yellow - green" colour scale.
 9. Save the journal and close Excel.
-

8 Manipulating Data

The aim of this section is to cover more ways of working with data. Tables, sorting, filtering and grouping can make it simpler to locate information. Data validation and filling can make it easier to enter accurate data.

Goals for this section:

- Data fill
- Sorting
- Filtering
- Removing duplicates
- Using tables
- Grouping data
- Subtotals
- Charts

8.1 Data Fill

Data fill is a way of populating data in a spreadsheet. This is useful where adjacent cells will all have predictable information or formulas. Data fill works down a column or across a row.

Fill in the first value, then select that cell, as well as the other cells to be filled. If the selection is all in one column, press **control+d** to fill down. If the selection is all in one row, press **control+r** to fill across. The selected cells now all have the same value or formula. If the copied data is a formula, any relative references update, the same as if the cells had been copied and pasted. If the first cell had " $=A1+ \$B\1 ", filling down, the next cell will have " $=A2+ \$B\1 ".

Fill can also be accessed from the Home ribbon by pressing **alt+h** then **f** then **i**. Options here include fill down and fill right, as well as fill up or fill left.

Fill series can be used to increment a number in each cell, or jump by a predictable step (5,10,15,20, etc.). To do this, select at least one value, and press **alt+h**, then **f**, then **i**, then choose **s** for "Series". A dialog appears where the fill is setup.

The focus starts in "step value". By default, this is set to 1, which is how much each subsequent value will change by.

"Stop value" is the number at which data will stop being filled. Any cells in the selection after this number is reached will be left blank.

"Type" is set to linear by default. Linear adds the step value to increment each cell. With a starting value of 3 and a step value of 2, subsequent cells will be filled with 5, 7, 9 etc.

Setting "Type" to "Growth" multiplies instead of adds values. With a starting value of 3 and a step value of 2, subsequent cells will be filled with: 3, 6, 12, 24.

Setting type to "Date" allows filling a series of Dates. Setting type to "date" enables the "Date unit" field. The date unit field provides options to adjust the date value by days, weekdays, months or years.

Flash fill is an automatic fill type, which works by analysing data in columns to the left. As an example, column A has peoples' first names, and column B has their surnames. In column C, the first and last name are typed for the first entry. Typing the second person's name, Flash fill offers to auto-complete the whole column. Capitalisation, order of data and punctuation changes are all considered.

The fill ribbon menu has an option for "justify". This option is used to spread text across a selection of cells. To use it, select the text and any columns to the right you would like the text to spread into. If the selection is not large enough to hold the text, it will display a warning and flow down below the selection. Press **alt+h** then **f** then **i** then **j**. Note that this may change the cells, columns or rows that text is on.

Let's explore filling data now:

Activity: Data fill

1. Open a blank worksheet.
2. In A1, type "hi", in B1, type 3 and in C1, type 5.
3. Select A1:A10 and press **control+d**. The value "hi" is copied to each of the cells in the selection.
4. Select B1:B10. Press **alt+h**, then **f**, then **i**, then **s** to choose fill series.
5. Type 4 in "Step value" then press **enter** to accept the default fill type of "linear". Note how the column now contains the initial value of 3, then each value incremented by 4 (7, 11, 15, 19, etc.).
6. Select C1:10. Press **alt+h**, then **f**, then **i**, then **s** to open fill series again.
7. Set the step value to 2, and the type to "growth" before pressing **enter**. Note how the column now contains the initial value of 5, then each value multiplied by 2 (10, 20, 40, etc.).
8. Move to D1 and type =C1+B1. Select D1:D10 and press **control+d**. Note how the formula is copied down the column.
9. Close Excel without saving, or continue to the bonus task.

Bonus task:

- Move to E1, and type "5, Hi, 8". These are the values from C1, A1 and D1 with commas between them and the "Hi" has a capital H. Move to E2 and press 1. Excel offers to auto-complete the current cell and the rest of the column.

8.2 Sorting

Data is often entered onto a worksheet in chronological order. It can be useful to be able to reorder the data based on other values. A worksheet might contain invoice details, for instance. Columns include date, invoice number, customer name, amount and paid status. Sorting by customer name can make it easier to find invoices for a specific customer. Sorting by date can enable finding an invoice from yesterday.

To sort data, first navigate to somewhere in the block of data to be sorted. The column the focus is in is the column which will be sorted on. In the invoice example, moving to the amount column will cause the sort to be based on the invoice amount. Press **alt+h** then **s** to open the "Sort" menu item on the home ribbon. The first item is either "Sort A to Z" or "Sort Smallest to Largest". The wording depends on whether the selected cell contains text or a number. The next item is to sort in reverse order "Sort Z to A" or "Sort Largest to Smallest".

Custom sort allows a more complex sort based on several columns. For each criterion, the column to sort by, what to sort on, and order can be chosen. Sort on defaults to "values", but can also be sorted on cell or font colour, or cell icon. Sorting by colour can be useful if conditional formatting is used. Additional criteria can be added. To put the oldest unpaid invoices at the top, sort "A to Z" by paid, then oldest to newest by date. Excel will put all the rows with "No" in the paid column above the rows with "Yes" in the paid column. Next, all the rows with "No" in the paid column will be sorted by invoice date, oldest to newest. All the rows with "Yes" in the paid column will also be sorted by invoice date, oldest to newest. Additional criteria can be added. If there are many invoices on each day they could be further sorted by amount. Following up still works from oldest to newest, but the highest value invoices for each day are followed up first.

Let's sort some data now:

Activity: Sorting

1. Open a blank workbook.
2. Write the headings "Date", "Invoice #", "Customer name", "Amount" and "Paid" across row 1.
3. Add six rows worth of data to the spreadsheet:
 - Include three different dates and a range of amounts.
 - Use Fill Series to complete sequential invoice numbers.
 - Write "No" in the "Paid" column for four of the invoices.
4. Navigate to one of the names in the "Customer name" column. Press **alt+h** then **s** for "sort", then press **enter** to sort "A to Z".
5. Navigate around and note how the rows have been sorted so that the names are in order.
6. Navigate to the amount column and sort by this column. Move around the data again. Note that it is now sorted by invoice amount then customer name.
7. Press **NVDA+h** then **s** then **u** for custom sort. Use **tab** and **shift+tab** to move around the dialog. Sort by "Paid", "Values", "A-Z". Add a second level and set this second level sort field to sort by "Date", "Oldest to newest".
8. Navigate the data and confirm that the information has been sorted.
9. Save the workbook as "invoices".

Bonus task:

- Move to the "Amount" column and sort it smallest to largest. Next, select the values in the "Amount" column. Add conditional formatting using the "Top / Bottom rules". Select "Above average" and set the colour to "Green fill with dark green text". Navigate to one of the individual cells to remove the selection. Next, perform a custom sort by the cell colour of the amount column. In "order" set it to use the colour "RGB 198,239,206" or similar and place these "on top". All the above average values are now at the top of the list. The order of the individual values which are above average is unchanged.

8.3 Filtering Data

Sorting data brings desired information to the top. Filtering data allows showing only data which meets certain criteria.

The option to toggle filtering is one of the options under sort. Press **alt+h** then **s** then **f** to turn filtering on or off.

When filtering is enabled, a dropdown arrow appears next to each heading. This is not currently announced. Move to a heading and press **alt+down arrow**. Next press **down arrow** to move through the options. After the sorting options, there is a search edit to find data from the current column. Next, is a list of matching data. Press **spacebar** to toggle options and **enter** when done to enable the filter. In the paid column of the invoices spreadsheet are checkboxes for "select all", "no" and "yes". All the checkboxes are checked initially as all data is displayed. To only show one or two options, uncheck "Select all" and check only the desired options.

Filters can be set on several columns at once. Data can also be sorted while filters are active. Only data which is visible at the time will be included in the sort.

To clear a filter, first move to the header of a filtered column and press **alt+down arrow**. Next choose "Clear Filter from Column" (where "Column" is the header of the current column). To clear all filters at once, press **alt+h** then **s** then **c**.

Changes made to the worksheet may affect the data shown by current filters. Existing filters can be reapplied by pressing **alt+h** then **s** then **y**.

Let's filter some data in the Invoice spreadsheet now:

Activity: Filtering data

1. Make sure the "Invoices" spreadsheet is open from the previous activity.
2. Press **alt+h** then **s** then **f** to turn filtering on.
3. Navigate to the "Customer name" heading and press **alt+down arrow** to open the filter menu.
4. Press the **down arrow** to move through the options.
5. Uncheck "Select all" and check two of the customer names. Press **enter** to apply the filter.

6. Press the **down arrow** to move through the column. Note how only a couple of rows are reported. Rows containing other customer names are completely skipped.
7. Press **alt+h** then **s** then **c** to clear the filter. Move through the rows and confirm that all rows are now visible.
8. Move to the "Paid" header and set a filter to only show invoices which are not paid.
9. Save the "Invoices" spreadsheet.

Bonus task:

- With the filter to show only unpaid invoices active, set a filter on the date field and select one or two dates. After browsing the filtered data, remove the filter on unpaid invoices. If there are any invoices issued on the dates in the filter which were paid, these will now be shown.
- Clear all filters and sort the data by invoice number smallest to largest. Create a filter to only show invoices which have been paid. Sort the data by invoice number largest to smallest and then clear all filters. Note the order of the invoice numbers.

8.4 Remove Duplicates

Filtering data to show rows with certain values can identify duplicate data. Excel also has a "remove duplicates" function. Remove duplicates can search either within columns or rows.

First, select the range to be examined. If no cells are selected, Excel will select the block of cells which surround the current cell. There is currently no option to check exactly what range has been selected.

Press **alt+a** to open the "data" ribbon, then **m** for "Remove Duplicates". The remove duplicates dialog appears. Options include: "select all", "unselect all" and a list of columns in the selection. There is a checkbox to confirm whether the selection includes headers.

By default, all columns in the selection are selected initially. To unselect columns, press **tab** to move to the list of columns. The first column name or letter is reported. Press the **up** and **down** arrows to move through the list. Press **spacebar** to select or unselect individual columns. Press **NVDA+numpad 2** (laptop: **NVDA+shift+down arrow**) to confirm whether a column is checked or unchecked.

When the desired columns are selected, press **enter** to remove duplicates. A dialog advises how many duplicate values were found and removed. The dialog also states how many unique values remain. Where duplicate values are found, the first instance is kept, and later instances are removed.

Conditional formatting can also be used to highlight duplicate values without removing them. Select the range to search, then press **alt+h** then **l** then **h** for conditional formatting. Press **d** for duplicate values. Use the dialog to select a colour scheme to

highlight duplicate values with. Press **enter** to highlight duplicate values. Note that this only searches the selection and compares individual cells. Entire rows are not compared as with the remove duplicates feature.

Let's explore duplicate values now:

Activity: Remove duplicates

1. Create a blank worksheet.
2. Fill A1:D4 with the following numbers:

1,2,3,4
1,2,1,2
1,2,3,4
1,1,1,1

3. Move to C2 and press **alt+a** then **m** to open the remove duplicates dialog.
4. Press **tab** to navigate around the dialog and move to the first column, reported as "Column A".
5. Press **down arrow** to move through the columns.
6. Press **tab** to the "OK" button and press **enter**. Excel reports "1 duplicate values found and removed, 3 unique values remain". Press **enter** then explore the data and confirm that the original row 3 has been removed, as it was identical to row 1.
7. Select A1:B3 and repeat the previous steps to open and use the "Remove duplicates" function.
8. Read the contents again. The contents of A2:B2 have been removed and the lower values have moved up one row. A2:B2 duplicated A1:B1, even though the values in columns C and D were different. Rows 2 and 3 are now changed from their original values.
9. Close the file without saving or continue to the bonus task.

Bonus Task:

- Select row three and copy it. Move to row one and select "insert copied cells" from the context menu to make a duplicate of the row. Create a total column using the autosum feature and copy it to each row. Select A1:E4 and use the remove duplicates feature. Consider whether the formula in the total column stop remove duplicates from working?
- Select A2:C3. Use conditional formatting to highlight duplicate values in red. Ensure NVDA's document formatting announces colours and explore the worksheet.
- Think about why some of the "1" values on the sheet are not highlighted. Also consider why the "2" in the selection is not highlighted when there are several other "2's" on the sheet?

8.5 Tables

Tables in Excel are a way of grouping blocks of data. The concept of tables on an Excel worksheet can seem confusing, as the whole worksheet is a table. One way to think about tables is that they are a way of grouping information. In the Data Validation activity, the "Name", "ID" and "Class" data would be a good candidate to convert to a table.

Press **control+t** to create a table. If only one cell is suggested, Excel will select all adjacent cells with data. A dialog appears with the selected range. There is an option to confirm whether the data includes headers and buttons to create the table or cancel. A table can also be created from the ribbon by pressing **alt+h** then **t**.

Tables combine several features which have been covered previously. If a table is created from the ribbon, the user is asked to select a colour scheme. If the table is created with **control+t**, the default colour scheme is used. The table might have the heading row coloured, every second row in the data coloured, or both. Colouring every second row makes it easier for sighted users to follow across one row in a large table. Headings in a table have filtering turned on so that they are ready to be filtered. Although tables use a heading row, these are not headers as NVDA understands them. NVDA's set column and row heading commands should be used if wanting to report headings.

With the focus in a table, press **alt** then **j** then **t** to open the Table Design ribbon. The table design ribbon has options including changing the table style and colours. Header and total rows can be specified and the table can be renamed.

The data in a table is set as a named range. By default, the name is "table1". As you add new rows of data under the last row in the table, the new rows are added to the table. As new columns are added to the right of the table, the table expands to encompass these. Press **tab** to move through a table. When the focus is in the last cell in a row, press **tab** again to move the focus to the first cell on the next row. On the last row of data in a table, press **tab** from the rightmost cell to insert a new row and move to the first cell in the new row. If the table has a total row at the bottom, the new row is inserted before the total row.

Autosum is a lot more powerful in tables. Press **alt+=** to add an autosum to a cell at the bottom of a column or right of a row. If an autosum is added to the bottom of a column in the table, a total also appears under the rightmost column of numbers. If an autosum is added to a cell in the rightmost column, an autosum is added to every cell in that column. Press **alt+down arrow** to open a list of alternate equations. Equations include average, count, Standard Deviation and Variance. The total row remains and values adjust when data is filtered. When typing formulas in a table, column names can be used. The format is `[@name]` or if the name has a space use `[@[the name]]` instead. Using the column name means the formula is identical down the column. On any row, the value of that column from the current row is used. Outside the table, it is possible to refer to columns inside the table. In a formula, type `Table[@column]` to refer to a table column. "Table" is the name of the table and "column" is the name of the column. To refer to the whole table, use the table name alone, the same as referring to named ranges.

To find out the table name, with the focus anywhere in the table, press **alt** then **j** then **t** then **a**. This moves the focus to the table name edit in the Table design ribbon. To rename the table, type a new name, then press **enter** to rename the table and return to the worksheet.

The name manager can also be used to read or change the name of the table, or any other named range or cell. Press **control+f3** to open the name manager.

Let's create a table in the classes workbook now:

Activity: Tables

1. Create a blank worksheet.
2. A group of friends took turns throwing three darts at a board. The results were:
 - John had 3 turns, with a low score of 6, a high of 161 and a total of 231.
 - Mary had 4 turns, with a low of 55, a high of 140 and a total of 312.
 - Peter had 3 turns, with a low of 11, a high of 160 and a total of 219.
 - Add all that information onto a worksheet using suitable headers. Place each player on their own row.
3. Move somewhere within the data and press **control+t**. Note the range suggested and press **enter** to turn the range into a table.
4. Move to the column after total and add a new header for "Average". Type the average for the first player. The average is the cell with the total divided by the cell containing the number of turns they had. Press **enter**. The table extends to include this column and the formula is copied down the column.
5. Move to the cell under the total column and press **alt+=** to add an autosum. This row is converted to a total row.
6. Move to the cell under the average column. Press **alt+down arrow**. A dropdown list opens with the various autosum equations. Select average and press **enter**.
7. Add "min" and "max" equations under the lowest and highest columns. Add a sum under turns and a count under the number of players.
8. Move to the "turns" header, press **alt+down arrow** and filter this column to show only those who played three turns.
9. Explore the worksheet and note how the totals have changed. Save the spreadsheet as "darts".

Bonus task:

- Remove the filter, move to the total for Peter and press **tab**. After moving to Peter's average, a new row is added before the total row. Add details for Jane who had four turns, her lowest was 16, highest was 130 and she scored 320 overall.

- Sort the data by the average column, with the highest average at the top. Filter the data to show only those players who had four turns. Next, sort again so the highest average is at the bottom. Think about what the order of the players will be when the filter is removed. Remove the filter and check the order.

8.6 Grouping Data

Grouping data can be used to selectively hide blocks of data. On a large worksheet, this can make reading only relevant data easier. On a sales worksheet, there might be customer details, information on each item plus sale type and amount. While all the data is useful, the accountant may only need to see income from each sales type. The warehouse needs to know the details of each item, and the customer to ship it to rather than the amount paid. In this example, customer and item details could be grouped, and sales types and amounts could be grouped. Each user could then show the groups they need and hide the groups they do not.

To group data, firstly select the columns or rows which may be useful to hide. Next, press **alt+a**, then **g** then **g**. To ungroup data, select the columns or rows to be ungrouped and press **alt+a**, then **u** then **u**. Note that individual columns or rows can be removed from a group. To remove all groups, press **alt+a** then **u** then **c**.

With groups setup, move to a cell within a group and press **alt+a**, then **h** to hide the group. Press **alt+a**, then **j** to show a hidden group.

One column or row can be in multiple groups. When a group is hidden, or shown, the newest group the selection is part of is hidden or shown.

Note that groups do not work with tables. Data in a table would need to be converted to a range. Press **alt** then **j** then **t** then **g** to convert a table to a range.

The next activity creates a sales sheet for an online store. Instead of deciding on prices manually, Excel has a function to generate a random number. The formula `=rand()` generates a random number between 0 and 1 to 9 decimal places. To create random prices anywhere up to \$10, multiply the value by 10. If only whole numbers are wanted, use `=randbetween(1,10)` instead. Let's create some data for an online store with groups now:

Activity: groups

1. Create a new workbook with two sheets, one called "Sales" and one called "References".
2. On the references sheet, head a column "categories". Underneath write the categories "eBook", "music" and "movies". Select the categories and name the range "Categories".
3. Still on the references sheet, add a heading for "tax", and a cell with the value "9%". Name the cell "tax_rate".

4. Move to the Sales sheet and add column headings for: "Sequence", "Title", "Category", "Price", "Tax" and "Total". Set the start of this row as the start of column headers.
5. Fill ten entries. For "Sequence", start with the number "1" and use "fill series" to fill down. For category, set data validation to use the "categories" list and add some of each. Make up a Title for each item. Use `=rand()*10` to set a Price for each item. Tax is Price * tax_rate and Total is price + tax.
6. Select columns A and B (Sequence and Title). Press **alt+a**, then **g**, then **g** to group them. Do the same for columns D and E (Price and Tax).
7. Move to column D and press **alt+a** then **h**. Navigate around the columns and note that only columns A to C and column F (and later) are visible.
8. Move to column F and press **alt+a** then **j** to show the hidden columns.
9. Save the worksheet as "esales".

Bonus Task:

- Sort the sheet by category. Next, select all the rows with movie as the category and create a group. Sort the worksheet by title. Move to column G and move through each row. Note where the row group is now.

8.7 Subtotals

Subtotals are a way of grouping data based on a specific value. On the esales worksheet, for instance, data could be sorted by category. A subtotal could be calculated for all eBook sales, all movie sales and all music sales.

Before adding subtotals, ensure data is sorted by the column the subtotals will be based on. Press **alt+a** then **b** to activate the subtotal feature. The subtotal dialog appears. The focus is on the "add subtotal to" list. The last column with numbers is automatically checked. Use the **up** and **down arrows** to move between columns. Press **spacebar** to select or unselect other columns a subtotal will be placed into.

Replace current subtotals will replace any existing groups and subtotals. Page Break between groups ensures that when printed, each group appears on its own page. Summary below data puts the total of each section below each block, with the grand total at the bottom. If this item is unchecked, totals are above their respective section. Remove all removes any current groups and subtotals without replacing them. At each change in is a combo box where the column to base the function on is chosen. Each time the value in this column changes, a new subtotal will be generated. The subtotal sums each row since the last subtotal. It is very important this column is sorted before running this function. The default value is the column the focus was in when the dialog appeared. Use function allows any of the main "total" functions to be used - min, max, count, sum, etc.

Let's add subtotals to our esales workbook now:

Activity: Subtotals

1. Make sure the "esales" workbook is open from the previous activity.

2. Move to anywhere in the category column.
3. Press **alt+h** then **s** then **enter** to sort alphabetically.
4. Press **alt+a** then **b** to open the subtitle dialog.
5. Press **tab** to move through the options. Move to the OK button and press **enter** to remove any existing groups and add subtotals.
6. Move to C1, then press the **down arrow** to move through the rows and note where subtotal rows are.
7. Press **control+a** to select the whole worksheet and then **alt+a** then **h** to hide each group.
8. Move through the worksheet now, reading the category and total fields.
9. Save the "esales" workbook.

Bonus Task:

- Add a new column to the right of "Title", called "Section". Add a formula to the first cell so that if the first letter of the title on that row is < L the section should be "A - K". Otherwise, the section should be "L - Z". Hint: The "Right()" function gives the last letter of the title. Note, however, the section is based on the first letter.
- Turn the data into a table (it works if you add the subtotals first) and sort by the section. Add subtitles again, this time based on the section.

8.8 Charts

Charts are a visual representation of data. Charts can highlight trends or exceptional values.

First select the data to be included in the chart. Next, press **alt+n** to open the Insert ribbon, then choose the required chart type. Press **r** to open recommended charts. These are some of the most common chart types. Press **control+tab** from recommended charts to move to all charts.

Other chart types are available from either the all charts dialog or the ribbon. Chart types include: column, line, pie, hierarchy, scatter, waterfall or radar chart.

Excel creates the chart and places it in the current worksheet. The colours used are chosen from the current theme and colours.

To move around the chart, press **tab** to move between items, and **enter** to move into the current item. There can be items within items. Some items may not contain text or descriptive information.

Some chart types better represent different types of data. Some types of chart work better with different types of data. Column and line charts can be simple or complex. Pie charts tend to work better with less data. Scatter and radar charts are designed for more complex data, but can be harder to read. Where the data contains only one series of data, a pie or basic column chart works well. For more complex data with many series a more complex chart type works better.

A worksheet has data on the exercise someone did in January. They walked an average of three days per week, swam on one day of the week and did weights two days a week. Creating a pie chart out of this data results in a chart which looks like a circle. The right half of the circle is all blue and the legend advises blue is for Walking. One third of the left is orange, which is swimming, and the rest of the circle is grey for weights. Charts do not provide any extra information over tables using NVDA. For someone looking at the screen visually, the data may be easier to take in at a glance. Once the chart has been created, NVDA announces "Chart title Jan, type, pie, there is one series in this chart.". Press **enter** to move into the chart itself. NVDA announces "Chart title" as the focus has moved to the title itself. Press **tab** to move to the legend, and **tab** again to move to the plot area. Press **enter** on any of these items to move into it. Move into the title to edit the text of the title. Move into the plot area to move the focus to the first series. Press **enter** on a series to move to each of the items in that series with their values. Press **escape** to move back up a level. Sometimes the new focus location may not be announced. If the focus location is not announced, press **tab** to move forward, and if needed, press **tab** to move back again. The sheet name will be announced when the focus moves out of the chart and back to the sheet.

NVDA's elements list can be used to move to a chart on the current sheet. Press **NVDA+f7** to open the elements list. The focus starts on the first item in the charts grouping. Press **down arrow** to move through the items, and **enter** to move to the currently selected chart.

Press **alt** then **j** then **c** then **w** to swap the row and column. In a chart with only one series, there will only be one way that makes sense. In a chart of a larger table, swapping row and column changes the data which is emphasised. A table may contain data on how much walking, swimming and weight training someone did in each month of the year. A chart may represent how much of each exercise type someone did in January. Swapping the chart's axis would show how much walking they did each month.

In this case, a column, line or radar chart may be more suitable. A more complex chart could show the different exercise types over several months at once.

By default, the chart is placed on the current worksheet. It is often useful to place the chart on its own worksheet. To do this, ensure the focus is still on the chart and press **alt** then **j** then **c** then **v**. The chart can be placed in a new sheet, or as an object in an existing sheet.

To set out the exact layout of the chart, press **alt**, then **j**, then **c**, then **a**. This opens a menu with various options depending on the chart type in use. Title can be set to none, above chart, or centred overlay. Data labels for each item on the chart can be positioned in several locations. The legend, or explanation of the colours, can be positioned, and the lines can be set or removed.

The next activity uses a 3-D column chart. A regular column chart has each item represented by a different height column. A multi-series column chart has several columns, in different colours. Each group of columns represents a step in the series and each colour a different series. A 3-D column chart has multiple rows of columns, set out behind each other. Each row is a different colour and the whole chart is viewed from an

angle so everything can be seen at once. Let's create a bar chart and a 3-D column chart now:

Activity: charts

1. Open a blank workbook.
2. Across row 1, write "Exercise", "Walking", "Swimming" and "Weights".
3. Down column A, write "January", "February" and "March". Fill B2:D4 with data on the average number of days per week each activity was done that month.
4. Select A1:D2 (the headers and the first row of data) and press **alt+n** then **q** then **enter** to insert a standard pie chart.
5. Press **enter** and then **tab** through the options. On "Plot area", press **enter** twice and **tab** through the options again.
6. Press **escape** until the focus is back on "Sheet 1". Press **tab** to move and check where the focus is.
7. Move the chart to its own sheet, then navigate back to sheet 1.
8. Select A1:D4 to include all the headers and data, then press **alt+n** then **c** to choose column chart. Press **tab** to "3-D Column" and press **enter** to insert this chart type.
9. Save the worksheet as exercise.

Bonus Task:

- Rename the "Chart title" to something meaningful. Explore the elements inside the "plot area" (and the elements inside those). This is a more complex chart than the basic pie chart.
- Move the chart to its own sheet and switch the row / column. Explore the chart again to get a sense of the layout.

8.9 Manipulating Data Review

This section covered some of the ways of manipulating data in Excel. The features allow working with data to make key information easier to find.

Topics included:

- Data fill
- Sorting
- Filtering
- Removing duplicates
- Using tables
- Grouping data
- Subtotals
- Charts

Activity: Manipulating data review

1. Open your Excel journal, add a new sheet and call it "Manipulating data".
 2. Add data to the new sheet:
 - Create headings for "Number", "Month", "Season" and "Days".
 - Under the headings, fill in the names of the months, which season they are in and how many days the month has.
 - Use "Series fill" to complete the numbers 1 - 12 in the "Number" column.
 3. Sort the data by the number of days in the month, smallest to largest. Add a filter on the column headings. Show only months in Spring and Summer.
 4. Turn the range into a table and name the table "Seasons". Sort by season, then add a total row at the bottom to sum the number of days in the year and count the months.
 5. Convert the table back to a normal range, Select the Season and Days columns, group these, then hide the group.
 6. Add a subtotal based on season which adds a sum total to "days" after each season.
 7. Under the data, write a line explaining how to remove duplicates. Write another line explaining the difference between tables and groups. Finally, write a line on two different ways of filling data.
 8. Sort by month number, then create a 3-d line chart. Move the chart to its own sheet, change the title to "Days in each month".
 9. Save the journal and close Excel.
-

9 Finishing and Distribution

The aim of this section is to cover adding finishing touches to spreadsheets. Preparing and then distributing workbooks to others is also included.

Goals for this section:

- Data Validation
- Spell Check
- Checking for formula errors
- Check for issues
- Protecting Worksheets
- Protecting Workbooks
- Sharing a workbook
- Comments

9.1 Data Validation

Data validation is used to restrict the type of data that can be entered into a cell. Where calculations rely on numbers, data validation can ensure that only a number is entered into a cell.

Press **alt+a** then **v** to open the Data Validation menu on the Data ribbon. Press **enter** or **v** to select the first item, which is Data Validation. The other two items on this menu are "Circle invalid data" (press **i**) and "Clear validation circles" (press **r**). Circle invalid data puts a red circle around data which does not meet the rules for that cell. Clear validation circles removes these visual indicators. Validation circles are not accessible with NVDA.

Criteria can restrict input to a whole number, decimal, date or time. A list can be used to restrict input to one of a set of values. Lists can be useful to force a "yes" or "no" reply, a month of the year, or a company name out of a named range. Text input can be limited to a specific, maximum or minimum length.

In the Data Validation dialog, press **tab** to move between options. Depending on the options chosen, some items may not be available.

Custom validation can use a formula to force unique values or a specific format. The following data validation formula, used on a column, ensures every value entered is unique:

```
=COUNTIF($A:$A,A1) <= 1
```

This formula counts how many times the value of A1 appears in column A. If the value is no more than 1, the formula evaluates as true. The formula returning true means the entered data is allowed. When using a formula for a range of cells, use a relative reference referring to the first cell in the range. The reference will be updated for each cell in the range.

The dialog has an option to ignore blank cells. This and any other changes to data validation rules affect any time the cell is edited after this. Changes to data validation rules do not remove existing data in a cell. Data validation only affects new data entered, even if existing data fails the new rules.

A message can be displayed when the cell is selected, instructing the user how to enter data in this cell. A message can also be displayed when data entered does not match the set criteria. This message can be customised. An "error" message prevents invalid data being entered. A "warning" or "information" message alerts the user but can be ignored. Often the layout of the worksheet is enough to avoid the need for an initial input message. For many uses, a custom error message is enough when a user enters incorrect data.

Let's explore using data validation now:

Activity: Data Validation

1. Open a blank workbook in Excel and type the headings "Name", "ID" and "Class" across row 1.
2. Name the worksheet "Student details". Also set column headings.
3. Add a new worksheet and name it "Class information".
4. On the class information worksheet, add the class names "English", "Mathematics" and "Sport". Select the values and name the range "Classes".

5. Back on the "Student Details" worksheet, select the "classes" column.
6. Press **alt+a**, then **v**, then **enter** to open Data Validation.
7. Press **tab** to move to the "Allow" combo box and choose "list". Press **tab** again to the "Source" edit, and type:

=classes

8. Add a couple of students to the sheet. In the class column, press **alt+down arrow** to open the list of allowed values. Use the **down arrow** to select one and press **enter** to insert it.
9. Try to type a class name which is not in the list and press **enter**. Press **escape** to close the error message and save the worksheet as "classes".

Bonus task:

- Set a data validation rule for the ID column to only allow whole numbers with 5 digits. Add an input message and write a title and message explaining this limitation.
- Set a data validation rule for the Name column only allowing unique names. Add a warning message explaining this limitation. Try filling in some more entries, both valid and invalid. Note the various messages displayed.

9.2 Spell Check

It is important to proof read your work to ensure that everything is correct. As well as moving through each sheet and reading each cell, groups of cells can be copied to read at once. Press **shift+spacebar** to select the current row. Press **control+spacebar** to select the current column. Press **control+a** to select the current range. Pressing **control+a** several times will keep expanding the selection until the whole workbook is selected. Press **control+c** to copy the selection to the clipboard and **NVDA+c** to read the contents of the clipboard.

One part of proof reading is to ensure spelling is correct. This is particularly important for something which will be sent to others.

Spell check in Excel works like in other Office programs. Unlike Word, Excel 2013 and 2016 use the dialog style spell check the same as earlier versions.

Press **f7** to start spell check. Excel starts checking from the current cell. When a word is found, which is not in the dictionary, the spell check dialog appears. The focus is in the dictionary language. Use the **arrow keys** to change language. Press **shift+tab** to move to the suggestions field. Next, press the **down arrow** to move through the suggestions. From the suggestions field, press **enter** or **alt+c** to change to the current suggestion. Press **alt+l** to change every instance of this spelling to the suggested alternative. Press **alt+i** to ignore the current word. Press **alt+g** to ignore all instances of this word on the current sheet. Press **alt+a** to add the current word to the dictionary.

To read the word flagged as an error, press **alt+d** to move to the "not in dictionary" field. Press **NVDA+up arrow** to read the word, or **NVDA+up arrow** twice quickly to spell the word. To read the context for the word, press **escape** to return to the spreadsheet at the current location.

Spell check only checks the current worksheet, so needs to be done for every sheet in the book. Spell check also only works on text in cells. The values created by formulas are not spell checked. If a cell has the formula:

```
=IF(temperature < 10,"coold", "hott")
```

Even though "cold" and "hot" are spelt incorrectly, spell check will not pick them up as they are part of a formula.

If a spell check is started in a cell other than A1, it will check from the current point to the end of the sheet. Reaching the end of the sheet, Excel will prompt to continue spell checking at the beginning of the sheet.

Let's check the spelling in a worksheet now:

Activity: Spell check

1. Open a blank workbook. In A1 write "wheathers infromation" (misspelt).
2. Add a new worksheet and move to it.
3. In A1 write "Curreant outside temp" (deliberately misspelt). In B1 write "15".
4. Name B1 "ttempearature".
5. In A2 write "Feells liek" (again, misspelt) and in B2 write (with misspellings):

```
=IF(ttempearature < 10,"coold", "hott")
```

6. Check that B2 displays the text "hott". Move to A1 and press **f7** to run spell check.
7. The first error is "Curreant". Press **shift+tab** to move to the suggestions, then **down arrow** to select "current" and press **alt+c** to make the change.
8. Change the other words to the correct spellings.
9. Note that "coold" and "hott" are not changed, and neither is the cell name ("ttempearature") or the formula. Spell check has also not checked the misspelling on the original sheet. Save the sheet as "errors".

Bonus task:

- Press **control+a** to select all the contents of the worksheet. Press **control+c** to copy the contents and **NVDA+c** to read the clipboard.

9.3 Checking for Formula Errors

Excel picks up some errors in formulas as they are typed. If the formula "`=NOW()`" is typed to get the time, Excel will show a generic message indicating a problem. In this case, the problem is a missing opening parenthesis. If "`=MOW()`" was typed, the structure is correct. The function starts with an equals sign, and has both opening and closing parenthesis. There is no function in Excel called "MOW", however, so Excel does not know what to calculate in this cell. While no error dialog is generated, this cell will display "`#NAME?`". In the previous activity, the word "ttempearature" was misspelt in the cell name, and the formula. Although misspelt, the name matches, so it works and is not an error. If the cell name was "temperature" but "ttempearature" was written in the formula, Excel would display the "`#NAME?`" error.

There is a feature to find errors such as these. Press **alt+h** then **f** then **d** to open "Find and select" on the home ribbon. Next, press **s** to "Go to special". Go to special can also be opened by pressing **f5** then **alt+s**. The "Go to special" dialog can select all cells which meet certain criteria. Criteria include cells with comments or cells with constants. Constants are where a value has been typed rather than a formula. In the previous activity, for instance, A1, B1 and A2 are all constants. These cells would be selected if "constants" was chosen. NVDA is not able to announce the selected range correctly, as they are not in a regular block.

To select errors in formulas, choose "Formulas" on the "Go to special" dialog. Next, use **tab** and **spacebar** to uncheck "Numbers", "Text" and "Logicals", leaving only "Errors" checked.

NVDA will announce a range of cells, for instance, "C2 through C4". The number of cells in the range indicates the number of cells on the sheet with errors. In this case, C2 (the first cell) has an error. The announced range "C2 through C4" contained three cells. This indicates that there are two more cells selected which also have errors.

Pressing **tab** moves the focus between the cells without losing the selection. Press **f2** to edit the currently focussed cell then **enter** to save changes and move to the next selected cell. In this case, the selected cell's location is not announced. Press an **arrow key** to move focus, which removes the selection. Next, move to the first cell with an error and fix the problem. Finally, repeat the steps to select formulas with errors.

Often, a spreadsheet has a column which should have identical formulas in every row. Go to special can highlight any cells in the column which differ. First, move the focus to one of the formulas and verify that it is correct. Next, press **control+spacebar** to select the column. Press **f5** then **alt+s** to open Go to special, then **alt+m** to choose "column differences". Press **enter** to select any cells in the current column with formulas different from the focused cell. The header can be ignored, but other differences may be worth investigating.

The "Go to special" dialog can select differences in the current row. This works like identifying column differences. Move the focus to a correct cell in the row. Press **shift+spacebar** to select the row. Press **f5** then **alt+s** to open go to special. Press **alt+w** to choose row difference, and **enter** to activate and select any cells which differ.

As with spell checking, the results of the "go to special" dialog are only within the current worksheet. Checking for errors should be done on each worksheet in a workbook.

Let's check for errors in the "errors" worksheet now.

Activity: Checking for formula errors

1. Make sure the "errors" spreadsheet is open from the previous activity.
2. Move to A3 and type "Curreant time", and in B3 type "=MOW()".
3. Move back to A1 and press **f5** then **alt+s** to open the go to special dialog.
4. Press the **down arrow** twice to move to "Formulas".
5. Press **tab** to move through the formula options. Use the **spacebar** to uncheck "Numbers", "Text" and "Logicals", leaving only "Errors" checked.
6. Press **enter** to check for errors.
7. NVDA reads "#Name? Has formula, B3". This is the only cell with a formula error. Press **f2** to edit the formula and correct it to read "=NOW()".
8. Repeat steps 3 to 6 to check for errors again. Excel displays a dialog reading "No cells were found". Note that the spelling error in A3 was not picked up by this check for formula errors.
9. Save the "errors" spreadsheet.

Bonus Task:

- In D1, write the formula "=row()". Use fill to copy this down to D5. Move back to D3 and change the formula to =column().
- Move to D2 and select the column. Use the go to special dialog to find column differences.

9.4 Check for Issues

The document inspector checks a whole workbook. Document inspector identifies personal information and hidden properties saved in the workbook. This is a way of double checking the details which will be included if the workbook is distributed.

The first item on the File menu is the Info tab. The document inspector is located on this tab. Press **alt+f** to open the File menu, **i** to open the info tab then **i** for Inspect document. This opens a drop down list. The first item is "Inspect Document".

Press **enter** to launch Inspect Document. A dialog appears warning that this feature might remove data that cannot be restored later. The dialog offers to save the workbook, or continue without saving.

Next, the document inspector window appears. Press **tab** to move through the window and use the **spacebar** to choose which items it will check for. By default, all the options are checked.

Press **enter** to run the inspector. The results screen shows all the same categories as the previous screen. Here, **tab** only moves between the "close" button, "remove all" buttons,

and the "reinspect" button. The Remove all buttons appear next to any category in which information was found.

When the focus is on any of the remove all buttons, it will read the type of information it has found. Press **NVDA+up arrow** (Laptop: **NVDA+I**) if desired to read this information again. Press **enter** on any of the remove all buttons to remove that information. If there are no remove all buttons, then no personal or hidden information was found.

The Check Accessibility feature can identify issues which may cause problems for users of your spreadsheet. Issues for screen reader users are identified. In addition, issues for users of other types of adaptive technology or with other needs are noted.

To run the "Check Accessibility" feature, press **alt+f** then **i** for the info tab. Press **i** again to "inspect document" then **a** for accessibility check. The accessibility check opens in a task pane, showing any issues. The focus returns to the worksheet. Press **f6** to move to the accessibility check task pane.

In Office 2016, the feature is also available on the Review ribbon. Press **alt+r** then **a** then **1** to access the Accessibility checker from the Review ribbon.

If no issues are found, the accessibility checker pane displays "No accessibility issues found. People with disabilities should not have difficulty reading this workbook". If issues were found, the focus will move to the first one, either an "error", a "warning" or a "tip". Press **down arrow** to hear what kind of issue it is, and **down arrow** one more time to the exact issue found. Press **enter** to select that issue. This also selects the object in the workbook itself. Press **tab** to move to "Additional information". Additional information describes the problem and how to rectify it. Press **shift+f6** to move to the workbook, and perform the steps required to address the concern.

Let's explore the Inspect Document and check accessibility features now:

Activity: Check for issues

1. Open the "Errors" workbook from the last couple of activities.
2. Press **alt+f** then **i** twice, and **enter** to start the document inspector.
3. A warning appears advising to save the workbook as some changes cannot be undone. Press **enter** to save and continue.
4. Press **tab** to move through and read the options on the document inspector. When the focus gets to the "inspect" button, press **enter** to start the inspection.
5. Press **tab** to move through the options and read the warnings. Excel warns that document properties and author details are available.
6. Press **escape** to close the dialog.
7. Press **alt+f**, then **i** then **i**, then **a** to open the accessibility checker.
8. Press **f6** to move to the toolbar. Press **down arrow** to read the warnings that the sheets have default names.
9. Press **shift+f6** to move back to the worksheet, then save the "Errors" workbook.

Bonus Task:

- Rename the worksheets and re-run the accessibility check. Confirm that there are no more warnings.
- Run the tests on some of the other workbooks you have created and see if there are any issues which can be addressed.

9.5 Protecting a Worksheet

Data validation ensures users enter the correct type of data. Cells can be locked so that users cannot edit them at all.

The last tab in the Cell Format dialog is "Protection". There are two checkboxes on this tab: "Locked" and "Hidden". When a worksheet is protected, users will not be able to edit cells which are locked. Hidden means that users cannot see the formula in the cell, even if the cell itself is not locked. It would be unusual to have a cell's formula hidden but without the cell being locked. When a cell's formula is hidden, users can still see the value of the cell, the result of any formula.

By default, all cells are locked. Locked cells can still be edited until a worksheet is protected. Protect sheet is available on the Review ribbon. To protect a worksheet, press **alt+r**, then **p** then **s**. The Protect sheet dialog appears. If desired, a password can be typed here. If a password is entered, it will need to be typed in before the sheet can be unprotected. This dialog also has checkboxes to choose what can be accessed while the sheet is protected. Select locked and select unlocked cells are both checked by default. If selecting cells options are unchecked, NVDA would not be able to read the locked sheet. The dialog also has options for formatting, sorting, editing, inserting and deleting information. There is a bug in Excel which prevents tables from expanding on protected sheets.

To unprotect a worksheet, press **alt+r**, then **p** then **s**. If a password is needed, a prompt appears to type the password. The worksheet is then unprotected.

The following activity sets up a spreadsheet for house and mortgage information. The sheet is then protected to prevent editing the formulas:

Activity: Protecting a Worksheet

1. Create a blank worksheet. In A1, write "Savings", in A2 write "Interest rate", in A3 write "Term (Years)".
2. In B1, write "100000", in B2, write "6%" and in B3 write "30". Set B1 to be formatted as currency. These values will be unlocked to test different amounts.
3. Across row 5, write the headings "House", "Price" and "Mortgage". In A6, write "1 My Street", and in A7, write "600000". Set B6 and C6 to be formatted as currency. Select A5:C6 and press **control+t** to create a table.
4. Name B1 "Savings", B2 "YRate" and B3 "Term". In C6, write "=[@Price]-Savings", which should give a mortgage value of \$500,000.

5. Select Columns A and B, then press **control+1** to open the format cells dialog.
6. Press **control+tab** to move to the "Protection" tab. Uncheck the locked checkbox before pressing **enter** to save changes. Set A1 to A4 and row 5 to be locked.
7. Press **alt+r**, then **p**, then **s**, to open the "Protect sheet" dialog. Press **enter** to protect the sheet.
8. Navigate around the sheet and try editing data. Edit the interest rate and savings and check how these change the repayments. Try editing the mortgage amount.
9. Save the worksheet as "houses".

9.6 Protecting an Entire Workbook

Like protecting a worksheet, protecting a workbook prevents unwanted changes. Sheets cannot be inserted, deleted, renamed or moved in a protected workbook.

To protect a workbook, press **alt+r** then **p** then **w**. Again, a password can be added if desired. If the people using the spreadsheet are familiar with Excel, a password may not be required. Protecting the worksheets and workbook prevents unintentional changes.

Protecting individual worksheets and the workbook can be done independently of each other. It is a good habit to protect worksheets once they are setup, and the workbook once it is ready for distribution.

The next activity adds a sheet to the houses workbook. The new sheet will hold values to calculate monthly repayments. Let's continue working on the houses workbook now:

Activity: Protecting a Workbook

1. Open the "houses" workbook from the previous activity. Create a second worksheet and name it "calculations". Name the first worksheet "houses".
2. Move to the Calculations worksheet. In A1 write "Monthly rate", and in B1 write "=YRate/12". In A2 write "Months" and in B2 write "=Term*12".
3. Name B1 "MRate", and B2 "Periods".
4. Move back to the "houses" worksheet and press **alt+r** then **p** then **s** to unprotect the sheet.
5. Move to D5 and write "Repayments". In D6, write "=PMT(Mrate, periods, [@Mortgage])". This should give a value in D6 of \$2,997.75 per month (depending on your local currency).
6. Each worksheet needs to be protected separately. Protect the worksheet, then move to the calculations worksheet and protect that too.
7. Press **alt+r** then **p** then **w** to protect the workbook.
8. Press **shift+f11** to insert a new sheet. Where NVDA would normally read the name of the new sheet, it now reads the current cell. No new sheet was added because the workbook is protected.
9. Save the "houses" spreadsheet.

9.7 Sharing a Workbook

There are many ways of sharing an Excel file with another user.

From within Excel, press **alt+f** then **h** to "Share" the current workbook. Press **e** to share via E-Mail, then **a** to send as an attachment. The default e-mail client opens with a blank message created and the spreadsheet added as an attachment.

Instead of sharing as an Excel workbook, the file can be sent as a PDF or XPS file. Press **alt+f**, then **h** for share. After pressing **e** to share via e-mail, press **f** to share as a PDF file or press **x** to share as an XPS file. Where possible the original Excel spreadsheet format (*.xlsx) should be used. An Excel spreadsheet is generally the most efficient format to read and edit, particularly with a screen reader.

If using Office 2013 or 2016 and OneDrive is setup, a workbook can be "shared". OneDrive is Microsoft's cloud storage. An Office 365 subscription includes extra storage space on OneDrive. When sharing a file via OneDrive, a unique public URL is created which can be shared with contacts.

Let's share a workbook now:

Activity: Sharing a workbook

1. Open a new, blank worksheet.
2. Type "Here is a worksheet I can send via e-mail".
3. Press **alt+f** to open the file menu.
4. Press **h** to select Share.
5. Press **e** to select E-Mail.
6. Press **a** to send as an Attachment. An E-Mail message opens in your default e-mail client. The workbook is attached, with "Sheet1" as the subject. The focus is in the "To" field, ready to type a recipient.
7. This activity does not cover sending an e-mail, so press **escape** to exit the e-mail.
8. Close Excel without saving.

9.8 Templates

Depending on the version of Excel, new workbooks may have one or three worksheets, but no content. Templates can be used to create a new workbook with some pre-filled in content. Excel templates include: an academic calendar, a cashflow analysis and an inventory list.

Generally, when a workbook is saved, it is an Excel spreadsheet, with an *.xlsx file extension. A workbook can be saved as a template which has an *.xltx file extension. When the template file type is chosen, Excel changes the save folder to the templates folder.

To save a workbook as a template, press **control+s** for a file which has not been saved before, or **f12** to open the save As dialog. The File menu can be used by pressing **alt+f**

then **a**, then **o** for "browse". When the dialog opens, the focus is in the file name. Type a name, then press **tab** once to the "Save as type" combo box. Press the **down arrow** to open the combo box, then **down arrow** until "Excel Template (*.xltx)" is selected. Press **enter** to save the template.

A template can be opened from the start screen or the "new" File screen. When Excel opens, the focus is on the "blank workbook" option on the start screen. Press the **arrow keys** to move through the built-in templates. Press **alt+e** to change from built-in templates to user made templates. Press the **arrow keys** to choose a template and press **enter** to create a blank workbook based on the template. One advantage of templates is that the template is not overwritten when saving data.

To open a template from the new file screen is similar. Press **alt+f** then **n** to select "New". Press **e** if a personal, or user made template is desired. Next, press **tab** to move through the options to find a built-in template. Finally, press **enter** to create a new workbook based on the template.

Let's save a template now, then create a new workbook from it:

Activity: Templates

1. Open a blank workbook.
2. Under the title "Class list", write the headings "Desk", "Name", "Phone" and "Paid" across row 2.
3. The room has seven desks. Fill the numbers 1 to 7 down A3:A9 and set A2:D9 as a table.
4. Press **f12** and type "class list" as the file name.
5. Press **tab** to "Save as type" and **down arrow** until "Template (*.xltx)" is selected, then press **enter**.
6. Press **alt+f4** to close Excel.
7. Start Excel and press **alt+e** to choose personal templates. Use the **arrow keys** to select the "class list".
8. Fill in a couple of students and press **control+s** to save the workbook. Excel opens Save As.
9. Save the file as "Term 1" and close Excel.

9.9 Comments

When sharing workbooks, comments are a way of providing feedback to the author. Comments are notes attached to individual cells to provide information or feedback.

To insert a comment to a cell press **shift+f2**. Next, type the comment, press **tab** to the "OK" button and press **enter**.

When the focus moves to a cell with a comment, NVDA will announce "has comment". Press **NVDA+alt+c** to read the comment. Press **shift+f2** to edit the comment.

NVDA's elements list can be used to see all comments on a worksheet and move to comments. Press **NVDA+f7** to open the elements list, then **alt+o** to choose comments

and **tab** to move to the list of comments. Press **down arrow** to move through the list and **enter** to move to the cell containing a comment.

To delete a comment, press the **applications key** then **m** to delete comment. Alternatively, to use the ribbon, press **alt+r** then **d** to delete the comment on the current cell. Note that the ribbon contains commands to move between comments. Excel's commands to move between comments do not work with NVDA currently. To move between commands, use the elements list.

The find command can also be used to find comments. Press **control+f**, then type the text to locate. Press **alt+t** if extra options are not already shown, then tab to "look in". Ensure "look in" says "Comments" and press **enter**. Find will jump to the next cell with a comment which contains the matching text.

Let's use some comments now:

Activity: Comments

1. Open a blank worksheet. Under suitable headings, use fill to write the numbers 1 - 12 in column A. In column B, write each number multiplied by 3 (eg " $=A3*3$ ").
2. Move to the cell with the number 1 in it, and press **shift+f2** to add a comment.
3. Type "This is the first number". Press **tab** to move to the OK button and press **enter** to close.
4. Move to the cell with the number 36 in it, and press **shift+f2** to add a comment.
5. Type "This is the highest number on this sheet". Press **tab** then **enter** to activate the OK button.
6. Press **NVDA+f7** to open the elements list and press **alt+o** to select comments.
7. Press **tab** to the list of comments, find the "This is the first number" comment and press **enter** to move to it. Note what NVDA reports when the focus moves to the cell.
8. Press **NVDA+f2** to edit the comment to read "This cell has the number 1 in it".
9. Save the workbook as "multiplication".

9.10 Finishing and Distribution Review

This section covered some of the tasks to finish a workbook and prepare it for others to access.

Topics included:

- Data Validation
- Spell Check
- Checking for formula errors
- Check for issues

- Protecting Worksheets
- Protecting Workbooks
- Sharing a workbook
- Comments

Activity: Finishing and distribution review

1. Open your Excel journal and add a new sheet called "Finishing and distribution".
2. Under the heading "Data validation", Add a label A3 called "Rock, paper, scissors". In B3 write a data validation rule which limits input to either "rock", "paper" or "Scissors".
3. Write four checks you should do before distributing a spreadsheet. Next to each, write the steps to perform the check.
4. In a blank cell, write "What I think of this training". Add a comment to the cell including a line about how you feel.
5. Move through each sheet in the workbook. Do a spell check and a check for formula errors on each worksheet.
6. Check for accessibility issues and inspect the document for issues.
7. Unlock cell B3, then protect each worksheet and the whole workbook.
8. Share the workbook and e-mail it to yourself as an attachment. (Go through the initial steps in Excel if you do not have an internet connection or e-mail access).
9. Save your journal.

Bonus task:

- In C3 write a formula to randomly choose a value of rock, paper or scissors. In D3 write a formula to calculate the winner.
- If you got stuck, the formula to choose a value of rock, paper or scissors is:

=IF(RANDBETWEEN(1,3)=1,"Rock", IF(RANDBETWEEN(1,2)=1,"Paper","Scissors"))
and the formula to calculate the winner is:

=IF(B3=C3,"Tie",IF(AND(B3="Rock",C3="Scissors"),"Win",IF(AND(B3="Paper",C3="Rock"),"Win",IF(AND(B3="Scissors",C3="Paper"),"Win","Lose")))) Study the two formulas to understand how they work.

10 Advanced

This last section contains information on advanced features and options. You may wish to explore these in more detail than the topic covers. Also noted are features of Excel which were not covered during the module. Finally, there are details on the NVDA Certified Expert accreditation program.

Goals for this section:

- Excel options
- Macros
- Topics not covered
- NVDA Certified Expert accreditation

10.1 Excel Options

Like the other Microsoft Office programs, Excel has an extensive range of options. Some options, such as the "Backstage" (in the "Save" options), many users like to turn off. Other settings, such as "Office scheme" (in "General"), may make Excel easier to see for visual users.

Press **alt+f** then **t** to open the options. Press **control+tab** to move between categories. Press, **tab** to move between options in each category. Press the **spacebar** to change individual options.

Let's have a look through the options now:

Activity: Excel Options

1. Open Excel.
2. Press **alt+f** then **t** to open the options.
3. Press **control+tab** to move through the categories until the focus returns to "General".
4. Press **tab** to move through the options.
5. Change any options you wish in the General or other categories.
6. Press **enter** to save changes and close the options, or **escape** to close without saving.
7. Press **alt+f4** to close Excel.

10.2 Recording a Macro

Macros can record a series of steps which can be "played back" to repeat the steps again. This can simplify performing a complex, but repetitive, series of steps.

To record a macro, press **alt+w** to open the View ribbon, then press **m** for Macros and **r** to record a macro. The record macro dialog appears with the focus in the Macro name edit. The default name is "Macro1". It is usually worth renaming this to something more meaningful. Note that macro names can only contain letters and numbers.

Once a name is typed for the macro, press **enter** to start recording, or press **alt+k** to assign a keyboard shortcut. A keyboard shortcut makes it easy to run a macro without needing to use the macro dialog. Press **alt+k** to open the "Customize keyboard" dialog. The focus starts in the "Press new shortcut key" edit, ready to press the desired keystroke.

By default, the macro is only available in this workbook. A macro can be made available every time any workbook is open. Press **tab** to move to "Store macro in" and choose "Personal macro workbook".

Once **enter** is pressed to start recording the macro, the focus returns to the workbook. Anything done from this point will be recorded as part of the macro. Macros can include: typing, interacting with the ribbon, or pressing shortcut keys.

Press **alt+w**, then **m**, then **r** to stop recording.

The next activity records a macro which adds a random value from 1 to 100 to the current cell. Using the `=rand()` or `=randbetween()` function changes the number when any cell is edited. Let's record a macro now:

Activity: Recording a macro

1. Open a blank workbook.
2. Press **alt+w** to open the View ribbon, then press **m** for Macro, then **r** to record a macro.
3. Type "random" as the macro name, then press **tab** and press **r** to add the shortcut **control+r**.
4. Press **enter** to start recording.
5. Type `=RANDBETWEEN(1,100)` and press **control+enter** to add the formula without changing cells.
6. Press **control+c**, then **control+v** to paste the formula back into the current cell.
7. Press **control** to open the paste options, and press **v** to paste the value only. Pasting the value only changes the formula into the current number value, so it will not change again.
8. Press **alt+w**, then **m**, then **r** to stop recording.
9. Save the workbook as "random" and close Excel.

10.3 Running a Macro

If a macro has a shortcut key associated with it, that key combination can be used to run the macro again. This is useful for macros used frequently.

Macros can also be run from the "Macros" dialog. Press **alt+f8** to open the Macros dialog directly, or **alt+w**, then **m**, then **enter** to open the dialog. From here, use the **arrow** keys to browse the available macros and press **enter** on any macro to run it.

Also from this dialog, new macros can be created and existing macros can be deleted or edited.

To create a new macro, move to the "Macro name" edit box and type a new name before pressing the "create" button.

If the "edit" or "step into" macro buttons are chosen, a Visual Basic editor will open. The visual basic editor contains the underlying code for the macro. Unless you are familiar with Visual Basic, it is worth avoiding these features.

After running a macro, if **control+z** is pressed, it will undo the last action from the macro. Each step of the macro can then be undone individually.

Let's run the macro created last activity to add some random data to the workbook now:

Activity: Running a macro

1. Open the "Random" workbook from the previous activity.
2. Add the heading "Random numbers" to A1, then move to A2.
3. Press **alt+f8** to open the macro dialog.
4. Press the **down arrow** to select "random". This should be the only macro, so it will be selected already. Press **enter** to run this macro.
5. The macro runs immediately; the focus stays in the current cell, which now has a number between 1 and 100 in it.
6. Move to A3 and press **control+r** to run the macro again and add a random value to this cell.
7. Keep moving down and add numbers to A2:A10, and then use autosum to show the total at the bottom.
8. Save the "random" workbook and close Excel.

10.4 Topics Not Covered

There were several topics not covered in this module. The reason for this is that they are not currently accessible enough to be fully useable with NVDA. These features are:

- Pivot tables. Pivot tables are a way of displaying data visually. Pivot tables are on a separate sheet, with controls to quickly sort and filter a table of data. Slicers are the controls which allow filtering data in a pivot table. Pivot tables are not accessible currently.
- Sparklines. Sparklines are a small line, column or win/loss chart which is in one cell, often next to the data it is a visualisation of. A table of sales figures might have months in columns and items in rows. A sparkline at the end of each row can visualise the growth of sales of each item. Press **alt+n** then **s**, then press **l** for a line chart, **o** for a column chart or **w** for a win/loss chart. In the dialog, confirm the range of cells to chart, and the cell to place the chart into. Sparklines are not accessible once created.
- Drawing tools. Drawing tools allow freehand drawing on a spreadsheet. Draw with a mouse or a finger on a touch screen display. Press **alt** then **j** then **i** to access the drawing tools ribbon. Illustrations (on the Insert menu) allow inserting images and predefined shapes (lines, arrows, triangles, etc.). Neither of these functions are accessible.

- Trace Precedents and dependents. Tracing precedents draws a line from the current cell to cells which get information from it. Trace dependents draws a line from the current cell to cells which influence its value. These lines are not accessible. Press **control+[** to move to precedents of the current cell. Press **control+]** to move to dependents of the current cell. Where there is only one precedent or dependent, the focus moves to the related cell. Where there is more than one cell, they are all selected, even if they are not next to each other. Press **tab** to move the focus between selected cells without losing focus. In both cases, NVDA does not announce the change of cells. With non-contiguous cells selected, NVDA can not correctly identify the cells selected currently.
- Query. A query imports data from one data source, such as an Access database, into Excel. In some cases, it is possible to copy data from one program to the other, which is the most accessible method. The advantage of a query is that the data is "live". Any changes to the original data are updated when the Excel workbook is loaded or refreshed.
- What if and forecast. What if and forecast predict how changing different variables affect data. On a sales sheet, what if can predict the difference in retail price or profit when changing mark-up. A forecast shows a chart predicting the continuation of a stream of data. Forecasts can be used to answer questions, such as: "If 10 widgets were sold in January, and 15 in February, how many are likely to be sold in July?". These features are not accessible currently.
- Freeze panes. This is a visual feature to ensure details such as column or row headings are always visible on screen. Frozen rows or columns remain visible even when the focus scrolls down past the first screen of data.

There is no activity for this topic.

10.5 Certification

NVDA Certification is a new, exciting program. Certification allows participants to demonstrate and confirm their in-depth knowledge of NVDA.

This program is particularly suited to:

- Trainers
- Technicians
- Accessibility professionals
- Add-on developers
- Dedicated users of NVDA who wish to demonstrate their proficiency.

Currently, accreditation as an NVDA Certified Expert is available. This certification corresponds to the "Basic Training for NVDA" training module. Accreditation for this Excel module will be available shortly.

More information on how to become certified is available on the [NV Access web site] (<https://certification.nvaccess.org/>).

End of the Microsoft with Excel module.



NVDA

MICROSOFT OUTLOOK TRAINING

eBook



NV Access

Empowering lives through
non-visual access to technology

Microsoft Outlook with NVDA

Release Date: 24th September 2021

Changes from earlier versions include:

- Added note about "Simplified Ribbon" in prerequisites, and at start of section 3.
 - Neatened wording of first paragraph of 2.4 and reverseing sort order in 2.7 (Removed repetitious sentences).
 - Minor corrections and Grammatical fixes.
-

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1 Introduction

This "Microsoft Outlook for NVDA" module covers using E-Mail, calendars and other Outlook features with NVDA. It introduces Microsoft Outlook and features of NVDA which are specific to Outlook. The module also builds on the skills gained in the "Basic Training for NVDA" module.

1.1 What is Microsoft Outlook?

Microsoft Outlook, often shortened to "Outlook", manages email, calendars, contacts, tasks and notes. Outlook is part of the Microsoft Office suite of programs.

Email is a way of sending electronic messages to one or more recipients, over the Internet. Email can be text only, or may include images, formatting or links to web pages, etc. Emails can also have files attached. Email is sometimes referred to as "E-Mail", "mail" or "messages".

Outlook has many other features which complement its email functionality. Outlook calendars can keep track of appointments and give reminders. Contacts keep track of details for people or organisations. Contacts make addressing email or calendar event

invitations easier. Tasks help ensure important things to do are not forgotten. These, and other features including notes and the journal are all covered in this module.

1.2 Goals

This module comprises the following sections:

- Getting Started with Outlook
- Advanced email
- Using the calendar
- Keeping organised
- People and contacts
- Tasks
- Notes
- Other Outlook Features
- Outlook settings
- Setting up an email account

Each section begins with goals and ends with related review activities.

1.3 Prerequisites and Assumptions

NVDA needs to be running on your PC. If using a Braille display, ensure it is set up before starting this module. The "Basic Training for NVDA" module has instructions for setting up NVDA.

You must be comfortable typing and be able to locate keys on the PC keyboard. Required knowledge includes the skills covered in the "Basic Training for NVDA" module. Review the following "Basic Training for NVDA" sections, before starting this module:

- 6 Editing Documents and
- 7 Document Formatting.

This module assumes the following minimum requirements:

- Windows version 7 through to Windows 10
- Microsoft Office 2010 or later
- A connection to the internet
- An email address set up in Outlook

NVDA works with older versions of Microsoft Office. Many of the steps covered in this material work on earlier versions. This module uses Office 2010 as the base version for clarity of description.

A new feature in Outlook, introduced in Office 365 during 2021, is the "Simplified Ribbon". Aimed at touch screen users, this ribbon shows fewer buttons on screen. Less used features

move in and out of an "overflow" menu. Keystrokes to access features change from when they are on the Ribbon to the Overflow menu. Because of this inconsistency, NV Access recommend setting Outlook to use the "Classic Ribbon".

To use the Classic Ribbon:

1. From anywhere in Outlook, press and release **alt** 2. Press the **applications key** to open the context menu 3. Press the **up arrow** once to move to the last item. 4. If this item reads "Use Classic Ribbon", press **enter**.

If the last item in the context menu reads "Use Simplified Ribbon", then the classic ribbon is already in use; press **alt** twice to exit.

It is possible to perform some functions of Outlook without an internet connection. Outlook's core functionality, and the tasks in this module, need an internet connection. Writing email offline is possible, for instance. To send an email written offline, a connection to the internet is needed.

This module assumes Outlook is setup with one email account and the default options. Where multiple email accounts are setup, some features will automatically use the first setup account. To avoid confusion for most users, changing this default selection is not covered for most tasks. For instance, the command to move to the inbox, **control+shift+i**, actually moves to the inbox of the first account.

1.4 Email Addresses

This module requires Outlook to have been setup with an email account. It is important to know your email address. See your technician if required for either of these.

An email address is like a phone number, uniquely identifies one recipient. It is a specific combination of characters meeting particular rules. An email address includes a username, followed by the "@" symbol, called the "at" symbol, and a domain, like a web page URL.

Many internet service providers and employers provide email addresses. There are also companies who provide free email addresses such as outlook.com, gmail.com or mail.com.

This module assumes that Outlook has been setup with an email account. See the section on Setting Up Outlook at the end of this module for instructions on how to setup Outlook. If you need to get an email address, speak to your trainer or technician for help. Be sure you know your email address as it is used in some of the activities in this module.

2 Getting Started with Outlook

The aim of this section is to become familiar with Outlook and be able to send and receive basic email. The section recaps key skills covered in the "Basic Training for NVDA" Module.

Goals for this section:

- Starting Outlook
- Creating, proofreading and sending email
- Exploring mail folders
- Checking for mail and reading messages
- Replying to email

2.1 Starting Outlook

Launch Outlook like any other program, either from the Desktop, Start Menu or taskbar. To find Outlook using the Start menu, press the **Windows key** and then type "Outlook". NVDA reads the first search result. If needed, press **numpad 8** (Laptop: **NVDA+shift+.**) once to re-read this result or twice quickly to spell it. Press the **down arrow** to move through the list if required.

Ensure the focus is on Microsoft Outlook, and then press **enter**. The shortcut may also include the version number, such as "Outlook 2010" or "Outlook 2013".

The "Basic Training for NVDA" module covered the Start menu, desktop and Taskbar. Refer to Chapter 3: "Getting Started with Windows" and Chapter 9.3: "The Windows taskbar".

One of the main features of Outlook is accessing an email account. Once Outlook opens, the focus is on the first message in the "Inbox". The Inbox is where new received mail goes. The title bar advises that the focus is in the Inbox, the e-mail account, and that the program is "Outlook".

If Outlook has not been setup, a dialog will appear to set an email account up. If this appears during the activity, refer to the "Email accounts" topic in the "Advanced topics" section at the end of this module.

If using NVDA in desktop keyboard layout, ensure **numlock** is off.

To close Outlook, press **alt+f4**.

Let's open Outlook now:

Activity: Starting Outlook

1. Press the **Windows** key to open the Start menu.
2. Type:

Outlook

3. Press **numpad 8** (Laptop: **NVDA+shift+.**) to re-read the item. Make sure "Outlook" is the current search result.
4. If Outlook is not the first search result, press the **down arrow** to select Outlook.
5. Press **enter** to start Outlook. The focus is on the first message in the Inbox.
6. Press **NVDA+t** to read the title bar.
7. Press **alt+f4** to close Outlook.

2.2 Creating a New Email

To be sure there is at least one message to read, the next activity will be to send an email to yourself.

To create a new email, press **control+n**. This is the same command used to create a new document in WordPad or Word.

The focus starts in the "To" field. In the "To" field, type the email address to send the message to. Press **tab** twice to move to the "Subject" field. The subject is a single line to explain the purpose of the message. The subject line should be something the recipient will understand and be able to find later. Subject lines such as "Hi" or "Help" are not very informative. The subject "Quote request for a six person dining table and chairs" conveys a sense of what the message is about.

After writing a subject, press **tab** to move to the body of the message. The body of the message can contain as much information as needed. When typing in the body, text wraps at the edge of the screen, like in Word. Press **enter** to move to a new line or leave a blank line.

Let's create a new email now:

Activity: Creating a new email

1. Open Outlook. If needed, refer to the previous activity.
2. Press **control+n** to create a new, blank email. The focus starts in the "To" field.
3. Type your own email address.
4. Press **tab** twice to move to the "Subject" field.
5. Type "Sending a first message to myself".
6. Press **tab** to move to the body of the email.
7. Type the following text:

Dear me

Here is a first email sent using Outlook.

Looking forward to hearing back from you.

8. Leave the message open to return to next activity.

2.3 Proofreading an Email

While editing a message, the title of the window will include the subject line, as well as "Message (HTML)".

After writing an email, it is a good idea to read through it to ensure that it is correct before sending. Outlook has a spell check function, to detect misspelt words and grammatical errors. This feature works the same as in Microsoft Word.

There are several ways of checking spelling. One of them is to press **alt+f7**. This searches for the next spelling or grammatical error. When Outlook finds an error, the caret moves to it. Outlook opens the context menu and highlights the first alternative word. The meaning of the suggested word is also read. If the word was "Puppu", the first alternative word would likely be "Puppy". Press **down arrow** to move through any more suggestions. Press **enter** to accept the current suggestion and change to the selected word. To read the context of the disputed word first, press **alt** to close the menu, then use the navigation keys to read. When ready, press **alt+f7** to check spelling from the current point onwards again.

If there are no spelling errors, a dialog will appear with the text "Spell check complete". Press **enter** to accept and close the spell check complete dialog.

To show spelling suggestions for any word, move to it and press the **Application key** to open the context menu. If the current word is not in the dictionary, the context menu will list suggestions. If the word is in the dictionary, the "Synonyms" option may show other words with similar meaning.

Let's proofread the message now before sending:

Activity: Proofreading an email

1. Ensure the message from the previous activity is open, then press **NVDA+t** to read the title. The title should read: "Sending a first message to myself - Message (HTML)".
2. Press **control+home** to move to the start of the message.
3. Press **NVDA+down arrow** (Laptop: **NVDA+a**) to read the message.
4. At the bottom of the message, type "Testnng spll chek" (including the error in each word).
5. Move back to the start of the text and press **NVDA+f7** to look for the next error. Outlook selects the word "Testnng", opens the context menu and offers the word "Testing".
6. Press the **down arrow** to read through the other suggestions.
7. Once the focus is back on "Testing", press **enter** to accept the change.
8. Repeat steps 5 - 7 until the "Spell check complete" dialog is displayed.
9. Press **enter** to dismiss the "Spell check complete" dialog. Leave the message open to return to one more time in the next activity.

2.4 Sending Email

After writing and double checking a message, press **alt+s** to send it. Once sent, the message cannot be cancelled.

Outlook will send the message immediately and the focus will return to the Inbox.

No message is displayed to confirm that the message has been sent.

Let's send the email from the previous activities now:

Activity: Sending email

1. Ensure that the message from the previous tasks is still open and read through it one last time.
2. Press **alt+s** to send the message. The message sends, and the focus returns to the Inbox.
3. Let's send another message. Press **control+n** to create another new message.
4. Type your email address into the "To" field once again and press **Tab** twice to move to the "Subject" field.
5. Type the subject "A second message to myself", then press **tab** to move to the body of the email.
6. Type "I'm writing to myself to ensure I have clever emails to read."
7. Use **alt+f7** to check for any spelling errors.
8. When ready, press **alt+s** to send the message.
9. Press **alt+f4** to close Outlook.

2.5 Exploring Mail Folders

Outlook keeps emails in folders, which work the same way folders in File Explorer hold files. The folder Outlook opens in is the "Inbox". When new mail arrives, by default, it goes to the Inbox.

When an email is sent, a copy of the message is placed in the "Sent Items" folder.

If the computer is not currently connected to the Internet, the email will go into the "Outbox" folder. Any items in the Outbox will be sent when an internet connection is available.

The "Drafts" folder contains unfinished emails. The "Deleted" folder contains emails which have been deleted.

Outlook also has other functionality, including contacts, calendar and journal. These items also have their own folders.

To change folders, use the "Go to Folder" dialog. Press **control+y** to bring up the "Go to Folder" dialog. Use the **arrow keys** to move through the folders. Press **enter** to close the dialog and move the focus to the selected folder. The title of the window includes the name of the current folder.

Folders in Outlook are in a tree view. Folders can be created under other folders to store related emails. This works like storing documents in a folder hierarchy in File Explorer. When navigating the folder list, use the **right arrow** to open a collapsed folder. Press the **down arrow** to navigate the sub-folders. Press the **left arrow** to jump to, or collapse, a folder with sub-folders.

Some users like a way to reassure themselves a message has been sent. Checking the "Sent Items" folder is a way of confirming this.

To return to the Inbox, either use the "Go to Folder" again, or press **control+shift+i** to jump to the Inbox. If more than one account is setup, **control+shift+i** jumps to the inbox of the first account.

Let's use the "Go to Folder" dialog to check the sent items folder now.

Activity: Exploring mail folders

1. Open Outlook. If needed, refer to the earlier activity for steps to open Outlook.
2. Press **control+y** to open the "Go to Folder" dialog. The dialog opens with the focus on the current folder.
3. Press the **up arrow** to move up to the top of the list of folders.
4. Press the **down arrow** to move through the folders. Find the "Sent Items" folder.
5. Press **enter** to close the dialog and move to the "Sent items" folder.
6. Press the **down arrow** to move through any messages in the Inbox. Note the messages sent in the previous activities.
7. Press the **home** key to jump back to the top of the list.
8. Press **NVDA+up arrow** (Laptop: **NVDA+I**) to re-read the current item.
9. Press **control+shift+i** to return to the Inbox.

2.6 Checking for New Mail

By default, Outlook will check for new email when it is first started, and every 30 minutes. To check for mail manually, press **f9**.

An "Outlook Send / Receive Progress" dialog box displays while checking for mail. The default button is "Cancel all". A progress bar fills as Outlook sends messages in the outbox. The progress bar clears and then fills again when downloading new messages. Once sending and receiving mail is complete, the dialog box closes. If new mail is received, a notification sound plays, and an icon appears in the notification tray.

With a fast internet connection, checking for mail may finish before the dialog box is noticeable.

Received mail is marked as "unread". After opening a message, it is marked as "read". NVDA reports "Unread" before other message details when moving through the message list.

Outlook has the option of displaying a "Preview pane". If the preview pane is displayed, then messages will be marked as read as soon as they get focus in the message list. Turning the preview pane off or on is covered in a later topic. For now, if needed, seek help from a technician to turn this feature off.

It is possible to mark messages as unread, even after reading them. To mark a message as unread, press **control+u**. To mark an unread message as read, press **control+q**.

Let's check for new mail now:

Activity: Checking for new mail

1. Ensure Outlook is open, and the Inbox is the current folder.
2. Press **f9**. NVDA should report "Outlook send / receive progress".
3. When NVDA reports "Inbox" again, the check has finished.
4. Press **home** to jump to the start of the list.
5. Press **NVDA+up arrow** (Laptop: **NVDA+I**) to have NVDA repeat the current item and check to see whether it is "Unread".
6. If the inbox is empty, repeat the steps in "Sending an email" to send a message, then repeat this activity.
7. Mark the first unread message as read by pressing **control+q**.
8. Use the **arrow keys** to navigate through the messages in the Inbox. Note the difference in the information read for the message used in the previous step.
9. Press **control+u** to mark the message as unread again and close Outlook.

2.7 Reading Messages

Press the **up** or **down arrow** keys to move through messages in a folder. When browsing the list of messages, NVDA reports the sender and subject. Additional information, such as the time received and message size may also be reported. To read the whole message, press **enter** to open the currently selected email.

The message opens in its own window and by default, NVDA starts reading it.

Use the regular reading and navigation keys to control reading:

- Press **shift** to pause and restart reading
- Press **control** to stop reading
- Press **control+home** to jump to the start of the message

- Press **control+down arrow** to jump to the next paragraph
- Press **control+up arrow** to jump to the previous paragraph

There is a full list of navigation commands in the Basic Training for NVDA module.

To select text in the message, hold down **shift** while navigating. Copy selected text with **control+c**. Text cannot be "cut" or deleted from a received message.

To close a message and return to the inbox, press **escape**.

The default message order is to have the newest at the top and the oldest at the bottom. The sort order can also be changed to another field. Sort by subject to have messages sorted alphabetically by their subject line. Messages can also be sorted by sender, recipient, and many other fields. Press **alt+v**, then **a**, then **b** to choose the field messages are arranged by. This opens a menu where the field to sort by can be chosen. If desired, reverse the sort order with **alt+v**, then **r**, then **s**.

Let's read a couple of messages now:

Activity: Reading messages

1. Open Outlook and use the **arrow keys** to browse the message list and choose a message to read.
2. Note whether NVDA reports the email as "Unread". If needed, repeat the previous activities to send a message and then check for new mail.
3. Press **enter** to open the selected message. NVDA will start reading it.
4. Press **shift** to pause NVDA reading. If using a synthesizer which does not support **shift** (such as SAPI 5), press **control** to stop NVDA speaking.
5. Press **shift** again to continue reading. Alternately, press **NVDA+down arrow** (Laptop: **NVDA+a**) to read the rest of the message.
6. Press **escape** to close the message. Read the current line to note whether NVDA reports the message as unread.
7. Press **alt+v**, then **r**, then **s** to reverse the sort order.
8. Use the **arrow keys** to move through the list of messages. Note that the oldest is now at the top.
9. Press **alt+v**, then **r**, then **s** to reverse the sort order. The newest message is at the top again.

2.8 Replying to Email

While some email messages are to provide information, many need a response. Press **control+r** to reply to a message. Replying can be done from the message list, or while reading the message itself.

A new message opens, ready to write a reply. The "To" field already contains the email address of the person who sent the original message. The "Subject" is also filled in. The original subject line now has the text "Re: " in front of it.

The caret is at the start of the message. Underneath the caret is a line, followed by the original message. The recipient will read the reply first, but the original text is available if needed.

Writing, proof reading and sending the message is the same as when writing a new message. Use **alt+f7** to check spelling. Press **alt+s** to send the message.

Let's reply to a message now:

Activity: Replying to email

1. Ensure that Outlook is open.
2. Locate one of the messages you sent to yourself. Note the subject of the message. If required, repeat the steps to send a new message to yourself.
3. Press **enter** to open the message and read it.
4. Press **control+r** to reply to the message. The focus starts in the body of the message.
5. Type "Thank you for your thoughtful message."
6. Press **shift+tab** to move back to the "Subject" field and to the "To" field. once to move to the Subject field. Note that these are already filled in.
7. Press **alt+s** to send the message then press **escape** to close the original message.
8. Press **f9** to check for new mail. When the message downloads, open and read it.
9. Close Outlook.

2.9 Getting Started with Outlook Review

This section covered the basics of sending and receiving email using Outlook.

Some of the key concepts included:

- Opening Outlook (type "Outlook" into the start menu)
- Creating a new message (**control+n**)
- Proofreading and spell checking (**alt+f7**)
- Sending messages (**alt+s**)
- Exploring mail folders (**control+y**)
- Checking for messages (**f9**)
- Opening messages (**enter**)
- Reading messages (NVDA reading keys)
- Reversing the message sort order (**alt+v**, then **r**, then **s**)
- Sorting (arranging) by a different field (**alt+v** , then **a**, then **b**)

- Replying to messages (**control+r**)

Activity: Getting started with Outlook Review

1. Open Outlook, and create a new, blank email addressed to yourself.
 2. Give the email the subject line "Getting started with Outlook review exercise".
 3. In the body of the e-mail, start by writing "Hello" followed by your name.
 4. Under the greeting, write the steps to perform the following:
 - Create a new message and spell check it
 - Locate a message in "Sent items" and read it
 - Return to the Inbox and reply to a message
 - Check for new email messages
 5. Move back to the word "Hello" and use the "Synonyms" feature to change the word to another one.
 6. Proofread and spell check the message.
 7. Send the message, then locate it in the "Sent items" folder to confirm it has been sent.
 8. Check for new mail, then read the message sent in the previous step, and send a reply to acknowledge reading it.
 9. Close Outlook.
-

3 Advanced Email

The aim of this section is to cover advanced use of email. This section includes formatting, sending to multiple recipients and working with other programs. This section starts to utilise commands on the Ribbon. The ribbon works the same as in other Microsoft Office Products. Please note the information in the Prerequisites at the start of this module about the ribbon. This module is written using the "Classic" ribbon interface.

This section introduces optional "Bonus activities". These more advanced tasks follow on from the regular activity after a topic. Like the review activities at the end of each section, they give fewer keystrokes. This encourages building independence while the concept is fresh. Bonus activities are a great way to test all the skills expected up to that point.

Goals for this section:

- Using "CC"
- Forwarding messages
- Copying between programs
- Attaching files

- Reply all
- Using BCC
- Deleting Email
- Using Drafts

3.1 Using the CC Field.

When creating a new message, after filling in the "To" field, press **tab** once to move to the "CC" field. "CC" stands for Carbon Copy. While the CC field is like the "To" field, there are several differences.

The person, people or company the email is being addressed to should be in the "To" field. The "CC" field is to copy in others who might need to know, but who are not the primary recipients.

A staff member might send an email "To" the manager to say they are ill and will not be in. Including coworkers in the "CC" field ensures they are aware, but the main person who needs to know is the manager.

Another example could be a husband and wife inviting friends for a BBQ. The husband would address the email "To" the friends, and "CC" his wife so she knows the invitation has been sent.

In any of the address fields, Outlook suggests known addresses which match the text typed so far. Press the **up** and **down** arrows to move between suggestions. Press **enter** to accept the selected suggestion and add it to the current field.

This next activity involves sending an email to an account setup for this training. The account, "Training1" (with the number '1' at the end) sends an automatic reply to every message it receives. Let's send an email to Training1 and CC ourselves now:

Activity: Using the CC field

1. Open Outlook.
2. Press **control+n** to create a new message.
3. In the "To" field, type the address training1@nvaccess.org
4. Press **tab** to move to the "CC" field.
5. Start typing your own email address. Press the **down arrow** to select it from the previously used addresses.
6. Press **tab** to move to the Subject and type "Testing using CC".
7. Press **tab** again to move to the body of the message and type a brief explanation of what "CC" is and how to use it.
8. Press **alt+s** to send the message.

9. Press **f9** to check for new mail and read the two messages when they arrive. One should be the reply from the training account, and the other, the copy of the original message you were CC'd on.

Bonus Activity:

Create a new message. Address the message to training1@nvaccess.org, and then CC training1@nvaccess.org. Give the message a suitable subject. In the body of the message, type a sentence including how many auto-replies you expect to get back. Send the message, then check for new mail and notice how many auto-reply emails come back.

3.2 Forwarding Email

After receiving a message, sometimes it is useful to pass it on to others. It might be a sale at a friend's favourite shop, or the reply to a question.

When reading a message, press **control+f** to forward it. Like replying to a message, forwarding an email creates a new message with some details filled in. The subject has "FW: " in front of the original text. The body contains the original text, with room to type an explanatory message above. The focus is in the "To" field, which is empty. After addressing the message, move to the body and type a short message explaining why it is being sent on.

When writing, it is important to remember that what you write can be shared with others. Considering what information to share applies in email, and websites or other forums.

This activity involves forwarding the email from the Training1 account to another account. Training2@nvaccess.org is another address which sends a reply to every message. Let's forward an email now:

Activity: Forwarding email

1. Open the reply to the "Testing using CC" message received from Training1 last activity.
2. Press **control+f** to forward the message.
3. Type training2@nvaccess.org in the "To" field.
4. Press **tab** to move to the Subject and read it. Note the "FW: " at the start.
5. Press **tab** to move the focus to the body of the message.
6. Type: "Here is some information you might find useful".
7. Read the message. Note what Outlook has placed between the old and new text.
8. Press **alt+s** to send the message.
9. Press **f9** to check for new messages. Read the message when it arrives.

Bonus Activity:

Locate an email from yourself in the Inbox. Forward the message to yourself without adding anything. Select the original mail again and this time reply to it. Ensure the reply is sent to yourself and again do not add anything. Compare the email which was forwarded and that which was a reply. Send a new email to yourself explaining the difference.

3.3 Multi-Tasking with Outlook

Received email may contain links to web pages. Press **Tab** to move between links in an email. Press **enter** to open the currently selected link in the default web browser.

Many emails are basic text without formatting. The advantage of plain text is that any email program on any device can read it. Group newsletters or advertising are more likely to use HTML, like a web page. HTML emails may have headings and other elements found on web pages. The entire contents of an email message can be browsed like a web page. Single letter navigation keys jump to any elements present, such as "h" to move to the next heading. Press **NVDA+f7** to open the elements list dialog. Now may be an opportune time to refresh web navigation skills. Review the "Browsing the Web" section in the "Basic Training for NVDA" module, if needed.

After activating a link in an email, press **alt+tab** to return to Outlook.

Often when composing email, it is helpful to be able to copy information from other programs. Information might be the text of an error message, a web page URL, or a paragraph from a document. Information can be copied from received emails to use in other programs as well.

The process to copy information from messages in Outlook is the same as in other programs. Open a message and use the navigation keys to locate the text to select. To select text, hold down **shift** and use the navigation keys. For instance, press **shift+control+right arrow** to select the word or part word to the right. Press **shift+down arrow** to select the rest of the line, then any extra lines. Press **control+c** to copy all text currently selected. Open a program or press **alt+tab** to move to another open program. Press **control+v** to paste the copied text.

Let's copy information into and out of Outlook now:

Activity: Multi-tasking with Outlook

1. Open Outlook and create a new blank message.
2. Address the message to yourself and give it the subject "copying information". Press **tab** to move to the body of the message.
3. Open Notepad. Press the **Windows** key, type "notepad" and press **enter**.
4. Type a paragraph about how to copy text between programs. Include selecting text, copying, changing programs and pasting.
5. Press **control+a** to select all, then **control+c** to copy the text.

6. Press **alt+tab** to move back to the partly written email, and paste the text into the body of the message with **control+v**.
7. Proofread the message, check for any spelling errors, and when done, press **alt+s** to send the message.
8. Check for new mail and read the message just sent.
9. Close Outlook.

Bonus activity:

Open the browser and navigate to a local news site. Copy the web page address from the address bar (press **alt+d** to go to the address bar). Create a new email to yourself with the subject "Today's news" and paste the link in the body of the message. Go back to the news article and copy a quote or a paragraph of text from the article. Paste the text in the body of the email, under the link. Send the message, then open the link from the received email.

3.4 Attaching Files

Files created in other programs can be attached to emails to send them to others.

Attachments can be any type of file. Word documents, images from cameras and PDF files such as fliers are often sent via email. Many email servers limit the size of emails. If sending something larger than 1MB, another method of sharing may be more suitable. A couple of images or Word documents are usually ok. A full movie or the NVDA setup file are both likely too large to attach to an email. Many online or "cloud" file storage services allow storing files and sharing a link to the file via email. Microsoft Office includes space on OneDrive, Microsoft's cloud storage service. Dropbox and Google Drive are two other similar services.

To attach a file to an email being written, press **alt+h**, then **a**, then **f**. This opens a menu which lists recently used files. The last option in the menu (press **b**) is "Browse This PC". Browse this PC opens a file open dialog to select a file to attach. The Attach File option is also available from the Insert ribbon with **alt+n**, then **a**, then **f**.

Another way to attach a file is to copy it from File Explorer. In File Explorer, select the file and press **control+c** to copy it. Press **alt+tab** to move back to Outlook, and ensure the focus is in the body of the message being composed. Finally, press **control+v** to "paste" the file, which attaches it to the email.

When navigating the message list, NVDA reports "Has attachment" for messages with attachments. Forwarding a message with an attachment includes the attachments. Replying to a message with an attachment does not include the original attachments.

When reading the message, press **shift+tab** to move to the first attachment. NVDA reports the name of the file. An email may have several files attached. Press the **right arrow** to move through any additional attachments. Press **enter** to open the current attachment in

its default program. For some types of files, a warning may appear about the danger of opening attachments. Microsoft Office files, such as Word Documents, will likely open in "Protected mode". Instead of opening an attachment, the context menu provides other options. Tasks such as saving or printing the attachment are available from the context menu.

It is important to only open attachments which are expected and from known contacts. Anti-virus software may not be able to protect against every possible malicious attachment. Malicious attachments on unsolicited emails are often used to attempt to infect computers.

Let's create, send and read an attachment now:

Activity: Attaching files

1. Open Microsoft Word and type "Congratulations, you opened the attachment".
2. Save the file as "Congratulations" and close Word.
3. Create a new message in Outlook, addressed to yourself.
4. Give the email the subject "Sending a file to myself" and type an appropriate message in the body of the message.
5. Press **alt+h**, then **a** then **f** to open the attach file menu.
6. If needed, press **down arrow** to select the "Congratulations" file saved in step 2. Press **enter** to attach this file to the message.
7. Press **alt+s** to send the message, then **f9** to check for new mail.
8. Locate the message and press **enter** to open it.
9. Press **shift+tab** to move to the attachment and **enter** to open it. If prompted about opening the attachment, press **alt+o** to choose "open". Read the attachment, then close everything.

Bonus Activity:

Open Notepad and Type "This is a test text file to trial typing tenacity". Save the file as "test text file" and close Notepad. Create a new email message with a suitable subject. In the body of the message, describe how to attach a file to an email. Open File Explorer and select both the "test text file" and "Congratulations" text files. Copy both files and attach them to the email. Check that both files are attached to the message then send the email to yourself. Check for new mail and open both attachments from the received message.

3.5 Reply All

Replying to an email sends a message back to the person who sent it. If there had been others included in the "CC" field, reply would not include them in the return message.

"Reply all" is a way of sending a message back to the person who sent an email, and anyone else it was originally sent to. Reply all creates a reply to the sender, and anyone else in the "To" field. Anyone in the CC field of the original message is in the CC field of the reply.

To Reply all to a message, press **control+shift+r**.

Let's reply all now:

Activity: Reply all

1. Create a new email. Write your own email address in the To field.
2. Press **tab** to the CC field and write training1@nvaccess.org.
3. In the Subject, write "Message to reply all to".
4. In the body, write "Another test email to learn reply-all."
5. Proofread, then send the message.
6. Check for new messages. Open the message sent to yourself (not the reply from Training1) and read it.
7. Press **control+shift+r** to reply to all. The focus starts in the body of the message.
8. Press **shift+tab** to move back and read the contents of the To and CC fields. Navigate back to the body of the message, write a note explaining that you are using reply all, then send it.
9. Read the received messages.

Bonus Activity:

Create a new email addressed to yourself, and attach the "Congratulations" created previously. Give the email the subject "Bonus email" and include a suitable message in the body. When the message is received, forward it to yourself and CC Training1@nvaccess.org. Note whether the files are attached to the received emails. Finally, reply all to the message, including a brief message. Once again, note whether the attachment comes through.

3.6 Using BCC

BCC, or Blind Carbon Copy, is a way to send email to recipients without anyone seeing who else received it. This is vital to maintain the privacy and confidentiality of the recipients. Examples might be sending out a company newsletter to clients, or to members of a sporting club.

Like the "CC" field, anyone in the BCC field will receive a copy of the message. Aside from the sender, everyone who receives the email will only see recipients in the "To" or "CC" fields. The sender can see the contents of the BCC field. All other recipients will only see their own email address in the BCC field.

The BCC field is not shown by default. It can be enabled from the Options ribbon when editing a message. Press **alt+p** to open the Options ribbon, then **b** to activate the BCC option. Once enabled, the BCC option remains visible on this and any other new messages created. To turn the option off, follow the same steps of **alt+p** then **b**.

There can be more than one recipient in the To, CC or BCC fields. To include multiple recipients, separate each with a comma "," or a semicolon ";".

The next activity sends an email to yourself and BCC's the two training email accounts. Let's send a message with BCC recipients now:

Activity: Using BCC

1. Create a new message in Outlook.
2. Type your email address into the "To" field.
3. Press **alt+p**, then **b** to enable the BCC field.
4. Press **tab** twice to move to the BCC field. If the focus moves from the CC field to the subject, repeat step three. If the focus is in the subject, press **shift+tab** to move to the BCC field.
5. Type "Train". Press the **down arrow** to select "training1@nvaccess.org" and **enter** to add this address to the BCC field.
6. Type a semi-colon and then add "training2@nvaccess.org" to the BCC field.
7. Move to the subject and type "Testing using the BCC field". In the body of the message type "Here is an email that's coming from me. All those I've BCC'd, no one will see!"
8. Send the message, then check for new mail.
9. Read the message and note the contents of the CC and BCC field.

Bonus Activity:

Browse the web and find an interesting shop or organisation with a newsletter. Sign up for the newsletter with your email address. When the first edition arrives, check whether your email address is in the To or CC field, or not visible at all. Many local organisations include everyone on the mailing list in the BCC field. Many larger organisations use fancier mailing list services. Some services are setup so that each message is sent solely to each individual recipient.

3.7 Deleting Email

Email accumulates very quickly. People have different strategies for keeping on top of incoming email. There is no single correct way to manage email. One simple method is to delete email once it has been read or replied to and is no longer needed. To delete an email, navigate to it, and press **delete**. An alternative keystroke which also deletes the current

message is **control+d**. There is no confirmation dialog. If an email is deleted by accident, press **control+z** straight away to undo deleting the email.

Deleted messages are not lost right away. Once deleted, messages are moved to the "Deleted Items" folder. If messages are deleted from the Deleted Items folder, then they are gone.

Some people find marking messages as unread is a good way to remind them to follow-up on a received email. Marking messages as read or unread was covered in the "Checking for New Mail" topic. To mark messages unread, press **control+u**. To mark messages as read, press **control+q**.

Let's delete some messages in the Inbox now:

Activity: Deleting email

1. Create a new message addressed to yourself.
2. CC training1@nvaccess.org and training2@nvaccess.org.
3. Give the email a suitable subject and type a few words in the message body. Send the email.
4. Check for new mail and three new messages should appear in the inbox.
5. Open and read the message to yourself.
6. Press **escape** to close the email.
7. Press **control+u** to mark it as unread.
8. Move to one of the automatic replies and press **delete** to delete it.
9. Move to the other automatic reply and delete it as well.

Bonus Activity:

Send another message to yourself, Training1 and Training2. Once downloaded, select all three messages using **shift** and the **arrow keys**. Delete all three messages at once. Move to the Deleted Items folder and explore the messages there. Finally, return to the Inbox and check for new mail.

3.8 Using the Drafts Folder

Sometimes an email might need to be left partly written, to come back to it later. Like Word, Outlook saves emails in the background every few minutes. This protects against loss in case of a power failure or computer crash. It is also possible to save a message manually. To save a message, press **control+s**. Alternatively, close the message with **alt+f4** and if not already saved, Outlook will prompt to save it.

Unfinished messages are saved in the "Drafts" folder. To get to Drafts, use the "Go-To Folder" dialog, covered in the "Exploring Mail Folders" topic. Press **control+y** to open the

dialog, press **d** until "Drafts" is selected, then press **enter**. Use the **arrow keys** to navigate through the messages in the folder, the same as in the Inbox. Press **enter** to open a message to keep working on. The focus is at the start of the last field edited. So, if writing the body of the message, the focus will be at the start of the body.

When sending a saved message, it moves from Drafts, to the Outbox, and then to the Sent Items folder. This movement usually happens unnoticed. If there is a problem sending, such as no internet connection, it can be worth checking the Outbox.

Let's save a message to Drafts now:

Activity: Using the Drafts Folder

1. Create a new message, addressed to Training2@nvaccess.org. Give the email the subject "Meeting on Tuesday".
2. In the body of the message, write "Hello Training2. Let's meet next Tuesday."
3. Press **control+s** to save the message, then press **alt+f4** to close the message, and **alt+f4** to close Outlook.
4. Open Outlook again.
5. Press **control+y** to open the "Go to Folder" dialog. Press **d** to select "Drafts" and press **enter**.
6. Select the "Meeting on Tuesday" message.
7. Press **enter** to open the message. The focus is in the body.
8. Press **control+end** to move to the end of the message, sign off the message with your name, and send the message.
9. Move through the Drafts folder and note that the sent message is no longer there.

Bonus activity:

Create a new message addressed to Training1@nvaccess.org. Give the email the subject "Customer complaint" and in the body write "I would like to complain". Press **alt+f4** to close the message. Select "Yes" to save the message when prompted. Browse to the drafts folder, locate the message, and press **delete** to delete it.

3.9 Advanced Email Review

This section covered more features of sending and receiving email.

Some of the key concepts included:

- Using "CC" to copy to other users
- Forwarding messages (**control+f**)
- Copying between programs

- Attaching files (**alt+h, a, f**)
- Reply all (**control+r**)
- Using BCC (**alt+p, b**) to discretely copy to others
- Deleting Email (**del**)
- Using Drafts (**control+s** to save)

Activity: Advanced email review

1. Create a new email addressed to training1@nvaccess.org. Give the message the subject "Advanced e-mail review".
 2. Add your own email address to the BCC field.
 3. Save the message to drafts, then close Outlook.
 4. Open Notepad. Type: "Blank document, what text awaits?", then save the file as thoughts.txt.
 5. Open Outlook, and retrieve the email saved to drafts in step 3.
 6. Attach the thoughts.txt file to the email.
 7. Send the message, then check for new mail.
 8. Forward the received message to training2@nvaccess.org
 9. Delete the auto-replies from training1 and training2 then close Outlook.
-

4 Outlook Calendar

The aim of this section is to introduce the calendar feature of Outlook. The calendar is a way of recording upcoming appointments, events and reminders. It is possible to share calendars with others or invite others to events.

Goals for this section:

- Introducing the calendar
- Creating an event
- Editing appointments
- Reminders
- Moving to and deleting appointments
- Recurring appointments
- Calendar view
- Using multiple calendars

4.1 Introducing the Calendar

When Outlook opens, the focus is in the Mail section, by default, the Inbox. To move to the calendar, press **control+2**. To return to mail, press **control+1**. If the focus is already in the desired section, NVDA does not report anything.

The default view is to show the current day. Each line represents 30 minutes. The navigation keys move through the calendar:

- Press the **up** and **down arrows** to move back or forward by half an hour
- Press **page up** or **page down** to move by one screen (often three or four hours)
- Press **home** to move to the first half-hour of the work day (by default 8am)
- Press **end** to move to the last half-hour of the work day (by default 4:30 - 5pm)
- Press **control+home** to move to 12am at the start of the day
- Press **control+end** to move to 11:30pm at the end of the day
- Press **left** and **right arrows** to change days

Reading appointments also uses common keys. Press **tab** to move to the next appointment. Press **shift+tab** to move to the previous appointment. If NVDA plays a sound rather than reading anything, there are no future appointments.

Press **NVDA+up arrow** (Laptop: **NVDA+l**) to report the currently selected date, time again. If the focus is on an appointment, this command also reports the appointment. **NVDA+tab** is another way of reading this information.

Let's explore the calendar now:

Activity: Introducing the calendar

1. Open Outlook.
2. Press **control+2** to move to the calendar.
3. Press the **down arrow** to move through the next few half-hour blocks.
4. Press the **up arrow** to move back through today by 30-minutes at a time.
5. Press the **left arrow** to move back one day at a time.
6. Press **NVDA+tab** to re-read the currently selected date and time.
7. Press **tab** to move to the next appointment. NVDA will either read the next appointment or play a sound if there are no future appointments.
8. Press **control+1** to move back to the Inbox.
9. Press **control+2** to move back to the calendar.

Bonus Activity:

Move from mail to the calendar. Press one keystroke to move to 12am this morning. Now jump ahead by four hours. Move to tomorrow and note the time that gets focus. Move from the calendar back to mail.

4.2 Creating an Appointment

The easiest way to create an appointment is to move to the desired time and type the name of the event. By default, half an hour is allocated for appointments. To create a longer

appointment, move to the start time, and press **shift+down arrow** to add 30 minutes. Press **shift+down arrow** multiple times to select a longer time before typing the appointment name.

To rename an appointment, press **tab** to focus the appointment, then press **f2**.

When moving through days, to jump back to today, press **control+t**.

A reminder pops up 15 minutes before an appointment. For now, if a reminder appears, read it, and press **alt+tab** to return to the calendar. The window title for reminders is the number of reminders due (e.g. "1 Reminder(s)"). The window title for Outlook indicates which section is active, such as "Calendar" or "Inbox".

Let's create an appointment now:

Activity: Creating an appointment

1. Open Outlook.
2. Press **control+2** to move to the calendar.
3. Press the **right arrow** seven times to move forward one week from now.
4. Type *"Test appointment - A week since I started using the calendar"*.
5. Press **enter** to save the entry.
6. Press **control+t** to return to today.
7. Press **tab** until the focus is on the new appointment.
8. Press **NVDA+up arrow** (Laptop: **NVDA+I**) to read the appointment date and time (do not worry about the time).
9. Press **control+1** to return to mail.

Bonus Activity:

Return to the calendar and navigate to tomorrow. Open the web browser and do a search for "Sunrise tomorrow". Return to the calendar and create an appointment called "Sun is about to rise". Set the start time to be half an hour before sunrise. Save and close the appointment. Locate the test appointment created for next week. Edit the text to read "A week of using the calendar".

4.3 Editing Appointments

Often, it is necessary to change the time of an appointment after creating it. It can also be useful to attach notes, such as directions to get to an event. Locate an appointment on the calendar, and press **enter** to edit it. On the calendar, press **control+n** to create a new appointment. Creating an appointment or editing an existing one opens an appointment edit screen. In mail, **control+n** creates a new email, and in the calendar, it creates a new

event. To create a new email from anywhere, press **control+shift+m**. In the same way, to create a new appointment from anywhere, press **control+shift+a**.

The dialog which appears when editing an appointment is a little like a new email. For a new event, the focus starts in the "Subject" field. The "Subject" is the text which displays in the calendar. Press **tab** to move to the "Location" field. This is the field which has focus when opening an existing appointment. The location is a text edit, and Outlook remembers locations used. The field is an editable drop-down. Type text or press the **down arrow** to move through previous locations. In the calendar, press **NVDA+up arrow** (laptop: **NVDA+l**) to read event details including location.

The next fields are the start date and start time, and the end date and time. To change the date or time, either type in the details, or use the **up** and **down arrow** keys to change the value. Press **spacebar** on the "Date picker" to open a pop-up calendar. On this calendar, press the **left** and **right arrow** keys to move by one day, or the **up** and **down arrow** keys to move by one week. Following the end time field is an "All day" checkbox which disables the time fields. All day appointments appear near the date information, leaving the half-hour blocks free.

The last field is a "Message" edit field to write notes about an appointment.

Press **alt+s** to save the appointment and close the appointment dialog. Let's edit an appointment now.

Activity: Editing appointments

1. Open the calendar.
2. Press **tab** to move to the appointment created last activity to celebrate a week of using the calendar.
3. Press **enter** to edit the appointment. The focus starts in the "Location" edit.
4. Type "At the computer" for the location.
5. Press **tab** to move to the Start time and change this to an hour later.
6. Press **tab** until the focus is on the End time and note that this has updated to half an hour after the new start time.
7. Press **tab** and move the focus to the "Message edit" and type "remember to order a cake to celebrate".
8. Press **alt+s** to save the changes to the appointment.
9. Navigate to the appointment. Press **NVDA+up arrow** (Laptop: **NVDA+l**) to read the details, including the location.

Bonus Activity:

Navigate to midday tomorrow. Press **control+n** to create a new event. Give the event the subject "Lunch". Add a location, such as "Home" or "A Cafe". Set the length of the appointment to be 45 minutes, and in the message write your favourite lunch food.

4.4 Reminders

Fifteen minutes before an appointment, a reminder pops up on screen. When a reminder pops up, it can be snoozed or dismissed. Press **alt+d** to dismiss the reminder and not have it pop up again for this appointment. Press **alt+c** to choose the length of time to snooze the reminder for. The default is to snooze the reminder until 5 minutes before the event. If that has already passed, the default time is 5 minutes. Either type a new time or use the **arrow keys** to select a pre-set snooze time. After setting a snooze time (or to accept the default 5 minutes), press **alt+s** to snooze the reminder. When snoozed, the reminder disappears and will pop up again after the snooze time elapses. If there are multiple reminders, the dialog will stay on screen until they are all dealt with. Press **alt+a** to dismiss all reminders. The first time "dismiss all" is used, a dialog asks: "Are you sure you want to dismiss all these reminders?". Press **enter** or **alt+y** to accept, **alt+n** for no (or **tab** to "no", then **enter**). Press **alt+d** to check the "Don't show this message again" checkbox.

The reminders window is a separate window. Unlike many dialog boxes, it does not need to be responded to before returning to Outlook. A chime sounds when the reminders window appears, however, it does not always get focus. Press **alt+tab** to move to the reminders window, if needed. The title of the reminders window includes the number of reminders, e.g.: "1 reminder(s)" or "3 reminder(s)". Press **alt+tab** to move the focus away from the reminders window back to Outlook, or to another program. Moving back to another program can be useful when in the middle of something urgent. If pending reminders are not acknowledged, it could mean missing a meeting or event.

When creating or editing an appointment, the reminder time can be set. Press **alt+h**, then **r**, then **e** to move to the "Reminder" time in the ribbon. The options here are like the options available for the custom snooze time.

To trigger the reminders window, the next activity creates an appointment in the past. Let's investigate reminders by creating an appointment now:

Activity: Reminders

1. Ensure the Outlook calendar has focus.
2. Press **control+t** to move to today, then press the **left arrow** once to move to yesterday.
3. Type "Test appointment for yesterday" and press **enter**.
4. Wait a couple of seconds and a chime will sound as the reminder window displays.
5. Press **NVDA+t** to check whether the reminders window has focus and **alt+tab** to move to the window if needed.

6. Press **tab** to move through the options on the reminders Window.
7. Move to the "Click snooze to be reminded in" drop-down and use the **down arrow** to move through the options.
8. Press **alt+d** to dismiss the reminder. The focus returns to the calendar.
9. Explore the calendar for yesterday. Note that although the reminder was dismissed, the appointment still exists. If not continuing to the next topic today, remember the date as it will be needed for next activity.

Bonus Activity:

Press **NVDA+f12** to report the current time. Move to today on the calendar and press **control+n** to create an appointment. Set the appointment for 30 minutes from now with the subject "Do bonus activity on reminders". Set a reminder time 35 minutes before the appointment and save the appointment. When the reminder appears, set the snooze time for 0.5 minutes and snooze the reminder. Wait 30 seconds and dismiss the reminder when it appears.

4.5 Navigating and Deleting Appointments

Being able to jump to a specific date can be faster than navigating one day at a time. To jump to a specific date, use the "Go-To" function. Press **control+g**, type the requested date and press **enter** to jump to it. Outlook can recognise dates typed in a wide range of styles. The following will all jump to a specific day in Outlook:

- 31/12/2019
- 12-31-2019
- October 5th
- Next Tuesday
- 3rd Monday in July

If an ambiguous date is entered, Outlook will first try the local region settings. For instance, the date "05/03" is the 5th of March in the UK, and the 3rd of May in the USA.

Deleting an appointment works the same as deleting an email. Locate the appointment to delete and press **delete**. As with deleting emails, **control+d** is another way to delete an appointment. There is no confirmation, and **control+z** does not undo deleting appointments.

Let's delete an appointment now:

Activity: Navigating and deleting appointments

1. Ensure the Outlook calendar has focus.
2. Press **control+g** to open the "Go-To" dialog.

3. Type the date of the appointment created last activity, then press **enter**.
4. Press **tab** to move to the "Test appointment for yesterday" appointment.
5. Press **delete**. The appointment is deleted.
6. Use the **up** and **down arrows** to explore the calendar and confirm the appointment has been deleted.
7. Press **control+g**. Type 22/02/2022 and press **enter**. Check what day of the week it is and confirm it is a Tuesday.
8. Press **control+t** to return to today.
9. Close Outlook.

Bonus Activity:

Open Outlook and Navigate to "Next year". Create an appointment with the subject "A year since learning Go-To in the calendar". Return to today and create an appointment for one hour from now with the subject "Take a break from the computer". Navigate to the 2nd of January. Finally, return to and delete both appointments before closing Outlook.

4.6 Recurring Appointments

For an event which occurs at the same time regularly, a recurring appointment is useful. Recurring appointments can be set anywhere from daily to yearly, and on specific days. When editing an appointment, press **alt+h**, then **e** to open the "Appointment Recurrence" dialog. The first two options are the start and end time. The third option "duration" is set to the difference between start and end time. Editing the duration changes the end time.

The recurrence pattern can be set daily, weekly, monthly or yearly. The option chosen changes the next options available. For Daily, the options are every "1" days or every weekday; the "1" can be changed to any number. For weekly events, the appointment can be set to recur every 1 (or more) weeks and on any given day. For monthly or yearly appointments, the date or day of the month or year can be set.

The last group of options is the "range of recurrence". The range can be set to the number of occurrences, a date to end by, or to recur indefinitely.

When a reminder appears for an appointment, it only applies to that occurrence. Reminders will still appear for future occurrences of this meeting. When editing recurring appointments, a dialog confirms the scope of the change. Changes can affect "just this one", or "the entire series".

A recurring appointment can be created in one step. Navigate to the desired start time in the calendar, open the context menu, then choose "New Recurring Appointment". An appointment is created and the recurrence dialog opened. From there, setup the appointment as previously noted.

Let's set a recurring appointment now:

Activity: Recurring appointments

1. Open Outlook and navigate to the calendar.
2. Press **control+g**.
3. Type *31 December* and press **enter**. The calendar changes to the last day of this year.
4. Press **control+n** to create a new appointment.
5. Give the appointment the subject "Celebrate NYE" and set the time to 11:30pm on the 31st December.
6. Press **alt+h**, then **e** to open the recurrence dialog.
7. Press **tab** to move to the "Recurrence pattern".
8. Press the **down arrow** to select "Yearly".
9. Press **enter** to save the recurrence and press **alt+s** to save the appointment.

Bonus Activity:

Use the Go-To command to jump to New Year's Eve next year and confirm that the appointment recurs then. Jump to NYE two years ago and check whether the appointment is in the calendar for then. Create a recurring appointment for the 3rd of each month with the subject "It's the 3rd!"

4.7 Calendar Views

So far, activities have used the calendar in its default "day" view. The calendar can be setup to show a work week (5 Monday - Friday), a full week or a month view.

In the "work week" and "week" views, the calendar behaves the same as in day view. Instead of the whole working area being one day, it is split horizontally into five or seven days. Press the **up** or **down arrow** keys to move back or forward by half an hour. Press **left arrow** or **right arrow** to move back or forward by one day.

Visually, month view looks more like a wall calendar. The working area is a grid, seven days wide and five weeks high. The **left** and **right arrow** keys still move by one day. The **up** and **down arrow** keys now move back or forward by one week. Press **enter** or start typing on a day to create an all-day event.

To change views, press:

- **control+alt+1** for day view.
- **control+alt+2** for work week view.
- **control+alt+3** for week view.
- **control+alt+4** for month view.

The month view allows easier movement one week at a time by pressing the **down arrow**. The month view also indicates whether there is any appointment on a day when navigating.

An appointment created by typing on a date in month view is made an all-day appointment. For navigating within individual days, the day or week view is more flexible. In the day or week views, NVDA announces that there is an appointment on a day if the day itself is selected. To select the day rather than a time, press **control+home** to move to 12am, then **up arrow** once.

Let's explore calendar views now:

Activity: Calendar views

1. Ensure the Outlook calendar has focus.
2. Press **control+alt+4** to select month view.
3. Note the selected date, then press the **up arrow** to move back by one week.
4. Press the **right arrow** to move by one day at a time back to the originally selected date.
5. Press **control+alt+3** to move to week view.
6. Press the **right arrow** several times to move by one day at a time.
7. Press the **down arrow** to move through the current day. Note how these commands work the same as in day view.
8. Press **control+alt+1** to return to day view.
9. Leave Outlook's calendar open to return to next activity.

Bonus Activity:

Change to work week view. Use the **right arrow** to move forward through seven days and note how the weekend is skipped. Change to month view. Move to next Monday and start typing the appointment subject "First day of the work week". Change to day view and press **tab** to locate the appointment. Use the **arrow keys** to note where the all-day event is located.

4.8 Using Multiple Calendars

It is possible to use multiple calendars at once in Outlook. If multiple email addresses are setup, they may each have their own calendar. Workplaces often have "shared" calendars for teams or events. It is also possible to create a calendar. This could be useful to separate family events from individual or work events.

To open an existing calendar, press **control+shift+tab** to move to "My calendars". Use the **arrow keys** to navigate the "My calendars" tree view. Press **spacebar** to select or deselect individual calendars. NVDA reports "Not selected" next to any calendars which are not currently displayed.

Press **control+tab** to move to the next visible calendar. Press **control+shift+tab** to move to the previous visible calendar. These keys will move to other items in the Outlook windows. It is generally easier to access these other features using more direct keystrokes.

To add a new calendar, press alt+h, then o, then c. To create a new blank calendar, press b. To open an existing calendar from elsewhere, choose the appropriate menu option.

"Schedule" is a view which synchronises the time across multiple calendars to compare. This can be used to identify meeting conflicts, or when multiple people are available. Press **control+alt+5** to go to schedule view. Press the **left** and **right arrows** to move through work hours. Schedule automatically moves from 5pm one day to 9am the next. Press the **up** and **down arrows** to move between open calendars at the current time.

Most people will either have access to multiple calendars or not. The next activity involves accessing multiple calendars, if available. For other users, the activity involves writing an email about the feature. Let's explore multiple calendars now:

Activity: Using multiple calendars

1. Ensure the calendar is open in Outlook.
2. Press **control+shift+tab** to move to "My Calendars".
3. Use the **arrow keys** to explore the tree view.
4. If there are any calendars which are "Not selected", choose one and press the **spacebar** to select it.
5. Press **control+tab** to move the focus back to the calendar.
6. If there are multiple calendars, use **control+tab** and **control+shift+tab** to switch between them. Use the **arrow keys** to change the date and time.
7. If there is only one calendar, press **control+shift+m** to create a new email. Address the message to yourself, with the subject "Multiple calendars". Write how to change between two calendars, then send the email.
8. Press **control+shift+tab** to move to "My calendars". Press the **arrow keys** to move to any calendars selected in step 4 and press **spacebar** to deselect them. Finally press **control+tab** to move back to the calendar.
9. Close Outlook.

There is no bonus activity for this topic.

4.9 Outlook Calendar Review

This section covered using the Calendar feature of Outlook to create appointments. Editing, deleting and being reminded of upcoming appointments are key components of this. Choosing a calendar view and showing multiple calendars were also covered.

Some of the key concepts included:

- Opening the calendar (**control+2**)
- Creating an event (typing or **control+n**)
- Editing appointments (**enter**)
- Setting and dismissing reminders
- Moving to and deleting appointments (**delete**)
- Recurring appointments (**alt+h** then **e**)
- Calendar views (**control+alt+1** to **5**)
- Using multiple calendars (**control+shift+tab**)

Activity: Outlook calendar review

1. Open Outlook and move to the calendar.
 2. Navigate to last Sunday. Create an appointment for 10:45pm with the subject "Bed time". Set the reminder to "None".
 3. Edit The appointment just created to make it recur every Sunday. Change the subject to "Time to go to sleep!" and set the location to "My bed".
 4. Set a reminder for the appointment to be 5 minutes before. Save the event, and when the reminder pops up, snooze it for 45 minutes.
 5. Without leaving the calendar, create a new email message. Address the message to training2@nvaccess.org and BCC yourself.
 6. Give the email the subject of "Using the calendar". In the body, explain 5 things that can be set when creating a calendar appointment.
 7. Send the message, then go to the Inbox to delete the auto-reply before returning to the calendar.
 8. Move to next Sunday and locate the "Time to go to sleep!" appointment. Delete it and all future occurrences.
 9. Return to today. Set the calendar view to "Day" view and close Outlook.
-

5 Contacts

The aim of this section is to cover the contacts section of Outlook. Contacts store relevant information about known people and organisations to enable efficient communication.

Goals for this section:

- Adding a new contact
- Editing a contact
- Adding a contact from an email
- Using the address book
- Contact groups
- Meeting requests
- Mail merge

5.1 Adding a New Contact

The address book, or "People" section of Outlook, stores the details of contacts. To address a message to a contact, type their name, rather than their email address in the To field of an email.

To get to the "Contacts" section of Outlook, press **control+3**. Contacts are displayed in a list.

To create a new contact, press **control+n**. A lot of information can be stored about a contact. Contacts can have multiple email addresses and phone numbers. Press **tab** to move through the fields and enter the information available. All the fields are optional. The most important information is usually a name, and an email address.

Press **alt+s** to save a contact and close it. Once a contact has been saved, when creating a new email, type either the contact's name or email address. In the "To", "CC" or "BCC" fields, use the **down arrow** to select recently used contacts. Also, in any of the address fields, press **control+k** to check names and email addresses typed. **Control+k** confirms that each recipient resolves to an email address. A dialog box appears if there is a problem with any address.

Note that when new mail is received, the name displayed is set by the sender. This name may be different to the name saved for the same address in contacts.

Let's create and use a new contact now:

Activity: Adding a new contact

1. Open Outlook and press **control+3** to move to the Contacts.
2. Press **control+n** to create a new contact.
3. Type "John Smith" for the name.
4. Press **tab** until the focus is in the "Email edit" (not the button) and type *training1@nvaccess.org*.
5. Press **alt+s** to save and close the contact.
6. Press **control+1** to go to email.
7. Create a new email and type "John smith" in the "To" field.
8. Press **control+k** to check the name and re-read the field to confirm it now has the address.
9. Give the email the subject "Testing contacts". In the body of the message, type a sentence about this activity before sending the email.

Bonus Activity:

Go back to Contacts and create a new contact for *training2@nvaccess.org*. Choose a suitable name for the new contact. Create a new email, type "john", then use the **down arrow** to select the contact created in the activity. Start typing "training" in the CC field and again use

the **down arrow** to see which contacts are suggested. Type "Creating contacts bonus activity" in the subject. In the body of the message, note down what **control+1**, **control+2** and **control+3** do in Outlook. Send the email to John Smith and CC Training2@nvaccess.org

5.2 Editing a Contact

Press **control+3** to move to the contacts section of Outlook. The contacts are displayed in a list. Use the **arrow keys** to navigate the list of contacts.

Press **enter** to open a contact to edit the details. The edit contact screen is the same as the original screen when creating a contact. Existing data can be left as-is, edited or deleted. Press **alt+s** to save the contact or press **escape** to close without saving. If closing a contact without saving, Outlook displays a prompt asking: "Want to save your changes?". Press **enter** to save changes, **n** for "No" to not save, or **escape** again to cancel exiting and return to editing the contact.

To send email to a contact, from the list of contacts press either **f6** or **control+tab** to move to the "reading pane". From the reading pane, press **tab** to move to the email button, then **enter** to create a blank email to that contact. The contact is in the "To" field and the focus is in the subject.

To delete a contact is the same as deleting an email. Locate the contact in the contacts list, then press **delete**.

Now there are at least a couple of contacts, let's explore them, edit a contact and send another email:

Activity: Editing a contact

1. With Outlook open, press **control+3** to ensure the focus is in the contacts.
2. Use the **arrow keys** to move through the contacts. Locate the "John Smith" contact created in the previous activity.
3. Press **enter** to open the contact for editing.
4. Edit the name to read "John Brown" and press **alt+s** to save the contact.
5. Use the **arrow keys** to explore the contacts and confirm the updated contact name.
6. With John Brown selected, press **f6** to move to the reading pane.
7. Press **tab** to move to the "Email" button. Press **enter** to activate the "Email" button and create a new email.
8. Give the email the subject "Writing to John" and type the steps to send an email to a contact in the body.
9. Send the message, then press **control+1** to return to the Inbox to read the reply.

Bonus Activity:

Edit the John Brown contact to add the company name "NV Access". From the contacts list, create a message to John Brown and note that you need to **tab** past the company name now. Close the message without saving it.

5.3 Adding a Contact From an Email

After receiving an email, adding the sender to Outlook's contacts makes it easy to write to them in the future.

First locate the email in the Inbox and press **enter** to open it. Press **shift+tab** until the focus is in the "From" field. The caret will be at the end of the field. Press **shift+left arrow** to select the name. Press the **Application key** to open the context menu. Press **d** to activate "Add to Outlook Contacts" or use the **arrow keys** and **enter**. A new contact window opens with the contact's name (if sent with the email) and email address. Add any other details as desired and press **alt+s** to save the contact and return to the Inbox.

To save an address without opening the message involves using the reading pane. Locate the message and press **control+tab** to move to the preview pane. Next, press **shift+tab** to move to the "From" field, then follow the rest of the instructions above.

When saving, Outlook reports if a contact already exists with the same name or email address. A dialog appears with options to "Add a new contact", or "Update information of selected contact". The default option is to update the existing contact. If there are multiple possible contacts, press **tab** to move to the list and use the **arrow keys** to select a contact. From one of the duplicate contacts, press **tab** to move to the "Changes to selected contact". The edit box has the name, email address, and any other information which is different in the two contacts. Information which is new displays in red. Information which is not in the new contact is in italic strikethrough. NVDA's "Document formatting" options enable NVDA to report these changes in text. Enable both "colours" and "font attributes" to ensure NVDA identifies all changes. Press **NVDA+control+d** to open the document formatting options.

The activity below adds yourself as a contact. Depending on how Outlook is setup, emails may appear as coming from your email address, or your name. Let's add your email address as a contact now:

Activity: Adding a contact from an email

1. Send yourself an email. Put "Email to myself" in the subject and describe how to add a contact in the body of the message.
2. Press **f9** to check for new mail.
3. Open the message from yourself.
4. Press **shift+tab** until the focus is on the "From" field with your email address (or name).
5. Press **shift+left arrow** once to select the address (or name).
6. Press the **Application key** and select the "Add to Outlook contacts" option.

7. Fill in as many details as you choose. Press **tab** to move between fields. Press **alt+s** to save the contact when done.
8. Create a new message. Type your own name and press **control+k** to validate it.
9. Close the message without saving.

Bonus Activity:

Add two more contacts from received emails.

5.4 Using the Address Book

When creating an email message, the focus starts in the "to" field. Press **shift+tab** to move the focus back through three buttons "BCC...", "CC..." and "To...". Press **alt+.** to activate the "To..." button, **alt+c** to activate the "CC..." button, and **alt+b** to activate the "BCC..." button.

These three buttons all open a "Select names: Contacts" dialog, also called the address book. This dialog contains a list of all the contacts. Navigate either by using the **arrow keys** or by typing the name of the contact. Once the desired contact is located, press **enter** to add it to the current field. The contact can be added to another field by pressing **alt+o** for the To field, **alt+c** for the CC field or **alt+b** for the BCC field. Press **tab** to move through the options in the dialog. There are three edit boxes with the current contents of each field. Press **delete** or **backspace** to remove contacts added in error, the same as in the email itself.

After adding the last contact, press **enter** a second time to save and close the address book. To cancel and return to the email without adding anyone, press **escape**.

After closing the address book, finish writing the email and send it as usual.

Before sending email, Outlook checks the To, CC and BCC fields. Each entry needs to be either an email address or a name from the address book which has an email address. Press **control+k** to run this check at any time when composing a message. If any names or addresses do not resolve, Outlook displays a dialog to confirm the address. The dialog lists all contacts which match the name or address typed. Press the **down arrow** to move through these and enter to choose the correct contact. If there are no matching contacts, the dialog has "No suggestions". Press **alt+s** to activate the "Show more names" button. The Address book opens to select names.

Let's use the address book now:

Activity: Using the address book

1. Open Outlook to the Inbox.
2. Press **control+n** to create a new message.
3. Press **alt+.** to activate the "To..." button and open the address book.

4. Use the **arrow keys** to explore the contacts in the address book.
5. Press **tab** to move through the controls in the address book. Return to the "list" of contacts in the address book. The focus is on the last name selected.
6. Type your own name, and when your contact is selected, press **enter** to add it to the To field.
7. Press **enter** a second time to activate the OK button and close the address book. Confirm your address is in the To field.
8. Give the email the subject "Using the address book". In the body, write a paragraph about how to use the address book.
9. Send the message to yourself, then close Outlook.

Bonus Activity:

Create a new email. Open the address book, and use the shortcut keys to add contacts, including yourself to the To, CC and BCC fields. When the email arrives, select your own contact in the address field, and edit it. Add an extra detail and save the contact.

5.5 Contact Groups

Contact groups enable multiple existing contacts to be emailed with one group name. This can be useful for teams, clubs, clients or family members.

To create a contact group, from within the contact list, press **alt+h** to open the Home ribbon. Press **c**, then **g** to create a contact group. Alternatively, press **control+shift+l** to create a contact group.

The contact group window opens, with the focus in the "Name" edit. Type a name for the group, then press **enter** twice to open the address book to add members.

Press the **up** and **down arrow keys** to move through the list of contacts. Press **enter** to add the currently selected contact to the group. When finished, press **enter** a second time to close the contacts dialog. The focus returns to the contact list being edited. Press **alt+s** to save the contact group and return to the main contacts list.

To edit a contact group, select it in Outlook's list of contacts and press **enter**. The focus starts in the name field, with the name selected. Press **tab** to the list of contacts. To remove contacts from the group, use the **arrow keys** to select the desired contact and **delete** to remove. To add a contact, press **alt+h**, then **m** then **c**. Select contacts with the **arrow keys** and press **enter** to add.

Note that in some versions of Outlook, only the selected contact reads correctly. In this case, use object navigation to move through the list of contacts. Use the next object command **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to read through the list. Use the previous object command **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move back through the list. Press **NVDA+shift+numpad minus** (laptop:

NVDA+shift+backspace) to move the focus to the current object. The current object is the last object read with the next or previous object command.

To send an email to a contact group is the same as sending a message to an individual. Type the name of the group in the "To", "CC" or "BCC" field of a blank email.

To email a contact group from the contacts list, first select the group. Next, press **control+tab**, to move to the preview pane, then **tab** to move to the email button. Press **enter** to create a blank email with the contact group in the To field.

When sending emails, Outlook expands contact groups. In sent items, each member is listed in the address field rather than the group name. To send an email confidentially to each member of the group, place the group in the BCC field of the email.

Expanding a contact group in the To, CC, or BCC field lists each contact from the group, rather than the group name. This can be very useful when wanting to email most people in a group. To expand a contact group, first move to the start of the name in the address field. Next, open the context menu and choose "Expand contact group". A dialog appears warning that the group cannot be collapsed again. Select and delete any individual contacts to not include them in this message.

Let's create a group now:

Activity: Contact groups

1. Open Outlook and navigate to contacts.
2. Press **alt+h**, then **c**, then **g** to create a contact group.
3. Type "Study group" as the name of the group.
4. Press **enter** twice to open the contacts dialog.
5. Use the **arrow** keys to select your own contact, and press **enter** to add it.
6. Add the NV Access training contact(s) as well. Press **alt+s** to save the contact group.
7. Press **control+shift+m** to compose a new email. Type Study Group into the To field and add a suitable subject.
8. In the body of the message, type a paragraph about contact groups. Send the message.
9. Check for new mail and read the "To" field of the received message.

Bonus Activity:

Edit the "Study group" contact group. Rename it "Study partners" and remove the training1 email contact from the group. Save the group and close Outlook.

5.6 Meeting Requests

Meeting requests are a type of email invitation to others to attend a meeting. The invitation adds an event to the calendar with the date, time and any other information.

There are several ways of creating meeting requests. From anywhere in Outlook, press **control+shift+q**. This creates a blank meeting request ready to add invitees to the To field.

To create a meeting request from the contact list, locate the contact to invite, then press **alt+h, t**, then **i**. The selected contact is added to the "To" field of the request.

Another way to create meeting requests is from the calendar. Select the desired time, open the context menu and choose "New meeting request". Starting in the calendar makes it easy to confirm there are no clashing appointments.

Meeting requests can be made recurring by setting the recurring options in the same way as for recurring appointments.

When a meeting request is received, Outlook adds the appointment to the calendar. The receiver is invited to confirm their attendance to the meeting. The options to respond are all on the Home ribbon, or the context menu. Press **alt+h** to open the Home ribbon, then select a response either with **tab** then **enter**, or with its shortcut key:

- To accept a meeting request, press **c**
- To tentatively accept, press **j**
- To reject a meeting request, press **n**
- To propose a new time, press **p**, then **t**

In each case, when responding, there are further options available for each selection. The options are to "Edit the response before sending", "Send the response now", or "Do not send a response". To compose a reply email, press **control+r** to reply or **control+shift+r** to reply all. This sends a regular email reply without accepting or rejecting the request yet.

When attendees respond to meeting requests, the sender receives a reply as an email. The reply indicates the response selected and updates the calendar entry. If the attendee edited the response before sending, their text is in the body of the message.

Open the meeting event in the calendar to view all responses to the meeting request. With the meeting open, press **alt+h** then **t** to select "tracking". From this menu, press **v** to view tracking status, or **c** to copy status to clipboard. If view is selected, the status shows as a table with four columns. First is a checkbox to indicate whether an invite has been sent. Next is the name, then role (generally organiser or attendee). The last column is the response received. If copy to clipboard is chosen, everything except the checkbox is copied. Read the clipboard with **NVDA+c** to read this information in one block.

To email all attendees, open the meeting and press **control+shift+r** to "reply all".

Meeting requests are compatible with other email systems, as well as Outlook. Google's Gmail provides the same options and works with Outlook's meeting requests.

Let's create a meeting request now:

Activity: Meeting requests

1. Open the Outlook calendar.
2. Choose a start time for lunch tomorrow. Use **shift+down arrow** to select a two hour block for the appointment.
3. Press the **Application key** to open the context menu.
4. Choose "New meeting request" from the context menu.
5. Type John Brown (training1@nvaccess.org) into the "To" field.
6. Press **tab** to move to "Subject" and type "Long lunch".
7. Add something suitable for the location, and include a message in the "Message edit" field.
8. Read over the appointment details, and check the time, then press **alt+s** to send the message.
9. Check for new mail, then close Outlook.

Bonus Activity:

Find a partner to practise sending and receiving meeting requests. Send them a request, have them respond and read the response received. Have them send a meeting request and explore the options to respond to the request.

5.7 Mail Merge

Mail merge is a way of sending a personalised letter to a group of people. Each letter is individually addressed with the recipient's name and other details.

The recipient list can be created from the contacts in Outlook. If creating a mail merge with only some contacts, first select the desired contacts. To select multiple contacts together, press **shift+down arrow**.

To select multiple contacts which are not next to each other, use **control+spacebar**. Navigate to the first contact to select it, then press **control+down arrow** to move through the list. For each contact to include in the mail merge, press **control+spacebar**. If desired, hold **control** down and tap **down arrow** to move and **spacebar** to select. When finished, release **control**.

Contact groups cannot be included in a mail merge. If they are included when initiating a mail merge, Outlook will advise that they will not be included.

To initiate the Mail Merge, press **alt+h** then **r**, then **g**. The Mail Merge contacts window appears. The first option is which contacts to use. If multiple contacts have been selected,

"Only selected contacts" will have focus. Otherwise, "All contacts in current view" will have focus.

The other options on this screen are:

- Whether to create a new document or use an existing one
- An option to save the contact data for later use (such as in another mail merge)
- What type of mail merge to create (letters, labels, envelopes or a catalog)
- Where to merge to (new document, printer or email)

The default is to merge to a new letter document and not save the list of contacts.

Select any desired options using **tab** and the **arrow keys**, then press **enter** to start the mail merge.

If merging to an e-mail, a subject can be entered for the message. The mail merge still opens in Microsoft Word.

Microsoft Word opens to the document, ready to type or customise the letter.

From this point, the mail merge process is the same as it would be if it had been started in Word. There is a section which covers Mail Merge in detail in the "[Microsoft Word with NVDA](#)" training module. That module is available separately from NV Access.

In the merge document, field names are surrounded by double-angled brackets. Examples of fields include «GreetingLine», «AddressBlock» or «First_Name». NVDA only reads the double-angled brackets at symbol level "all". The recipient details will replace the field names in the finished merge.

When finished, a mail merge can be printed, opened as a document in Word, or sent as emails in Outlook. To send emails, choose "Finish Mail Merge", then press **down arrow** and select "Send Email messages".

The next activity creates a very basic mail merge containing only a simple greeting line. To add a greeting line in a mail merge, press **alt+m, g**, then **enter**. To finish the merge and create a document of letters, one per page, press **alt+m**, then **f**, then **enter** twice.

Let's create a basic mail merge now, using all the contacts:

Activity: Mail Merge

1. Open Outlook's contacts.
2. Press **alt+h** to open the Home Ribbon, then **tab** to "Mail Merge" and press **enter**.
3. Press **tab** to move through the options, until the focus is back on "All contacts in current view".

4. Press **enter** to accept the settings and start the mail merge in Word. Press **enter** to accept the warning that contact groups will not be included.
5. To add a greeting line to the blank document, press **alt+m**, then **g**, then **enter**.
6. Read the current line, the line contains "«GreetingLine»".
7. To finish the mail merge, press **alt+m**, then **f**, then **enter** and **enter** a second time.
8. Read through the created document. Each page is a separate "letter". Note that each contact is addressed by their name.
9. Close everything without saving changes.

Bonus Activity:

Add two new contacts to Outlook. Select your own contact, Training1@nvaccess.org and training2@nvaccess.org. With these three contacts selected, perform a mail merge. In the document, add the greeting line, and a message advising of an upcoming general meeting. Finish the merge and select send email messages to send the messages. Read the message you receive.

5.8 Contacts Review

This section covered using contacts in Outlook.

Some of the key concepts included:

- Moving to the contacts section (**control+3**)
- Adding a new contact (**control+n**)
- Editing a contact (**enter**)
- Adding a contact from an email (**shift+tab** to name, select then add from context menu)
- Using the address book (**alt+.** in a message)
- Contact groups (**alt+h, c, g**)
- Meeting requests (**control+shift+q**)
- Mail merge (**alt+h, r, g**)

Activity: Contacts Review

1. Open Outlook and create a new contact. Fill in at least five pieces of information about them.
2. In the contacts list, select the newly created contact and create a new email addressed to them.
3. Open the address book, find training1@nvaccess.org and add them to the To field of the email.
4. In the To field, remove the newly added contact, leaving only training1@nvaccess.org.

5. In the BCC field, add the contact group created earlier this section. Expand the group and remove any addresses which are not yourself or one of the training accounts.
 6. In the body of the email, explain how to use Outlook to start a mail merge, then send the message.
 7. Choose a contact to edit and add two more pieces of information about them.
 8. Compose a meeting request to training2@nvaccess.org. Schedule the meeting from 3:15pm to 4:45pm tomorrow afternoon in the board room. Send the request.
 9. Email yourself and in the body of the message explain how to accept or reject a meeting request.
-

6 Organisation

The aim of this section is to cover some of the strategies around having a well organised mailbox.

Goals for this section:

- Creating a folder
- Creating mail rules
- Advanced email rules
- Editing and deleting rules
- Searching for mail
- Assigning Categories
- Creating an email signature
- Using Tell me

6.1 Creating a Folder

Outlook comes setup with some basic folders. Some covered already include the Inbox, Sent Items and Drafts. Create new folders to help sort correspondence and keep it organised.

To move between folders, press **control+y** to open the "Go to folder" dialog. Use the **arrow keys** to select a folder in the dialog and **enter** to open the chosen folder.

To create a new folder, press **control+shift+e**. To create a folder using the ribbon, press **alt+o** then **n**. A dialog appears which is like the Go To Folder dialog. The focus starts in the name field ready to name the new folder.

Next select the type of items which the folder will contain. The default is the same type of items as the current folder. When creating a folder while in mail, the default type will be "Mail and Post Items". When creating a folder in the calendar, the default type will be "Calendar items".

Select the folder to create the new folder inside. Create a folder under the inbox for received mail to go in. Create a folder under the Sent Items to sort sent mail into. Create a folder under the top level, the email address, to place it at the same level as the Inbox and other main folders.

To move items between folders, select the item(s), then press **control+shift+v**. A dialog appears, which is like the dialog to move focus between folders. Select the folder to move the item(s) to and press **enter**. The move items dialog also has a "new" button to create a new folder. To create a new folder and move an item to it in one step, select the item, then press **control+shift+v**. Use the **arrow keys** to select the folder which will be the parent folder. Press **alt+n** to activate the **new** button. Type a name for the folder, then press **enter** twice. The first time to create the folder, and a second time to confirm moving the item.

Another way to move a message between folders is with the context menu. Press the **Application key** and press **m** to select "Move" from the context menu.

Let's create a folder now:

Activity: Creating a folder

1. Open Outlook to the Inbox.
2. Press **alt+o** then **n** to create a new folder.
3. Type "Stories" for the name.
4. Press **tab** and confirm the "Folder contains" items of type "Mail and post items". Press **tab** again and **arrow** through the folders.
5. Select the "Inbox" folder and press **enter** to create the new folder under the Inbox.
6. Send an email to training2@nvaccess.org with the subject "stories" and a request for a story in the body.
7. When the reply is received, press the **Application key** to open the context menu. Activate the "Move" item, select "Stories" and press **enter**.
8. Press **control+y** to open the Go To Folder dialog.
9. Use the **arrow keys** to select the "Stories" folder, then press **enter**. Confirm that the message is in the folder.

Bonus Activity:

Create a folder under the Sent Items folder. Call the folder "Work". Navigate through the last dozen sent messages. Move all the messages which were sent to "training2@nvaccess.org" to the "Work" folder.

6.2 Email Rules

Rules in Outlook can help sort mail as it arrives. Instead of all new mail being in the inbox, mail can be moved into folders by keyword or by participants. Email from family might go in a "Family" folder. A "tax" folder might be a good place for email with "receipt" in the subject.

To create a rule, first select a message to move. This is usually either from a specific sender, or with certain keywords in the subject. With a message selected press the **Application key** to open the context menu. Next, press **s** to open the "Rules" sub-menu. There are four options:

"Always move messages from *sender name*"

"Always move messages to *recipient name*"

"Create rule" (U)

"Manage rules and alerts" (L)

The first two options move messages based on the email address they were sent to or from. Depending on the people the email was sent to or from, there may be more or fewer options. Many email lists appear to be sent either to or from one specific address, which can be used to create rules.

The "Create rule" option brings up a dialog to create a new rule. The first option in the dialog is to base the rule on emails received from this sender. This is the same as the option on the rules submenu. The second option, "Subject contains" has an edit box with the email subject. To use this option, first check the "subject contains" checkbox, then **tab** again to the edit box. Edit the text to include only the words likely to appear in all related messages. For instance, the subject of an email to the NVDA mailing list might read "[NVDA] Creating rules in Outlook". To base a rule for the NVDA mailing list, leave only "[NVDA]" in the edit box. The third option is to base the rule on who the message was sent to.

Once criteria to match are set, the next step is to select what to do with a matching message. There are three options:

"Display in the New Item Alert window" "Play a selected sound" "Move the item to folder"

The New Item Alert window is a dialog which appears notifying of new mail matching a rule. It is different to the regular new mail notification which appears only briefly.

Once at least one condition and one action are setup, the "OK" button is enabled. Press **enter** to activate the "OK" button and create the rule.

After creating a rule, Outlook runs it on the Inbox. If there are a lot of messages, this can take 30 seconds or longer. When done, the focus returns to the folder, and NVDA announces the next message.

Let's create a rule now:

Activity: Email rules

1. Open Outlook and locate an automatic reply from training2@nvaccess.org. If there is no email, send a message to training2 and wait for a reply.
2. Select an email from training2@nvaccess.org. Press the **Application key** to open the context menu.
3. Press **s** to activate "Rules". Next, press **enter** to choose the first option "Always move messages from: training2".
4. Use the **right arrow** key to expand the "Inbox" folder. Press the **down arrow** to select the "Stories" folder created in the "Creating a folder" activity.
5. Press **enter** to create and run the rule. The focus returns to the Inbox and NVDA announces the next message.
6. Send a message to Training2 with the subject "Training with rules". In the body, type an explanation of how to create a rule.
7. After a few moments, check for new messages. If there are other messages, these will be in the Inbox, but not the reply from training2.
8. Press **control+y** and move to the "Stories" folder.
9. Move through the first few messages which all should be from Training2. The first message is the automatic reply to "Training with rules" which is unread.

Bonus Activity:

Create a new folder under the inbox called "Tax". Create a rule to move all messages with the word "receipt" in the subject to the Tax folder. Send yourself a message with the subject "donation receipt". Once received, confirm that it is moved to the Tax folder.

6.3 Advanced Rules

When using the "create rule" dialog, press **alt+d** to display advanced options. The advanced options list many more conditions and actions. Use the **arrow keys** to navigate the list of conditions. Press **spacebar** to select or deselect options.

Press **tab** to move to "Step 2", to edit the rule description. This section of the window is read-only text with links to change certain values. Use the **arrow keys** to move between values which can be changed. Use **enter** to activate an object and bring up a dialog to select its options.

Use object navigation to read all the text in the rule description. Press **NVDA+numpad 4** (laptop: **NVDA+shift+left arrow**) to move to the previous object. Press **NVDA+numpad 6** (laptop: **NVDA+shift+right arrow**) to move to the next object. If needed, refer back to the section on Object Navigation in the "Basic Training for NVDA" module.

After all chosen conditions are setup, press **enter** to activate the "Next" button. The first screen defined what messages to catch with this rule. The next screen is laid out the same and sets what to do with messages which meet the criteria.

One of the most common rules is to move messages to another folder. Other options include deleting or forwarding messages. Messages can also be printed, or marked as read, as well as other options.

Press **enter** to activate the "Next" button again. At any point, if no more options need to be set, press **tab** to move to the "Finish" button and **enter** to activate it.

The third screen is used to select exceptions to the rule. For instance, a rule could move all emails from a colleague to a "work" folder. The colleague might share an interest in the same football team. Personal emails might always include "football" in the subject. Use the "except if the subject contains specific words" option to leave these emails in the Inbox.

Press **enter** again to move to the final page. Options on this page include setting a name for the rule, run it now, disable it or review the settings.

Let's create another rule with more advanced options now:

Activity: Advanced rules

1. Select the reply to the "Training with rules" from the previous activity.
2. Press the **applications key** to open the context menu. Press **s** to select "Rules", then **u** to "Create rule".
3. Press **alt+d** to activate the "Advanced Options" button.
4. Select the "where my name is in the To or CC box" option and press **spacebar** to check the checkbox.
5. Press **enter** to activate the "Next" button.
6. Use the **arrows** and **spacebar** to select options. Set "mark it as read", "Move it to the stories folder" and "Stop processing more rules" options.
7. Press **tab** to move to the "Step 2" section.
8. Use the object navigation keys to read the contents of this section.
9. Press **tab** to move to the "Finish" button and save the rule.

Bonus Activity:

Create a folder called "Ideas". Create a rule which moves all messages from yourself to the Ideas folder. Set options to ensure the rule runs only if the message "is sent only to me" and except if it has an attachment. Send a message to yourself with the subject "movie script" and a paragraph with a movie idea in the body. Open Notepad and type a recipe for breakfast, save the file. Send yourself an email with the recipe attached. Check where the

messages are. The message with the attachment should be in the Inbox, and the movie idea email should be in the "ideas" folder.

6.4 Editing Rules

Multiple rules run one after the other on new mail. By default, the newest rule runs first on each message.

The order of rules in the list can be important. Rules can be set so that when a message meets the criteria for a rule, no more rules are processed for that message. For example, suppose the following two rules are set, each set to stop processing rules after it has run:

Move all messages with "Report" in the subject to the "Work" folder

Move all messages from training1@nvaccess.org to the "Stories" folder

A message is received from training1@nvaccess.org with the subject "draft report to check". Whether the message ends up in the "work" folder or the "stories" folder depends on the order of the rules.

To change the order rules run, or to edit other rule properties, use the "Manage Rules and Alerts" dialog.

To open the rules and alerts dialog from the Home ribbon, press **alt+h**, then **r**, then **r**, then **l**. To open the dialog from the list of messages is like creating a new rule. Press the **Application key** to open the context menu. Press **s**, or choose "Rules", then press **l**, or choose "Manage rules and alerts".

The "Rules and alerts" dialog has a button to create a new rule. There are also buttons to Change the current rule, copy or delete the current rule, or move it up or down the list. Under these buttons is a list of current rules. Press **spacebar** on any rule in the list to check or uncheck it. Unchecking a rule suspends it, so it does not run, without deleting it entirely. To delete a rule, select it in the list and press either **delete** or **alt+d**. A dialog appears confirming that this will delete the rule. Press **enter** to confirm deleting the rule or **escape** to cancel.

When "Change rule" is selected (press **alt+h**), a sub-menu opens with options. The first option, "Edit rule settings" opens the advanced options screen. This was described in the previous topic. "Move to folder" is a way to change the folder to move messages to without editing the rest of the rule.

To move a rule in the list, select it, then **shift+tab** until the focus is on either the "Move up" or "Move down" button. Press either **spacebar** or **enter** to move the rule up or down one place. The rule moves and the focus jumps back to the rule in its new place in the list.

In the previous activity, a rule was created to move messages from training2@nvaccess.org. Let's change it to move messages which have "report" in the subject instead:

Activity: Editing rules

1. Select any message in the Inbox and press the **Application key** to open the context menu.
2. From the context menu, choose "Rules" (press **s**), then "Manage Rules and Alerts" (press **l**).
3. Press **tab** to move to the rule which moves messages from training2@nvaccess.org to "Stories".
4. Press **alt+h** to activate "Change rules" and **enter** to "edit rule settings".
5. The focus starts in "Step 1" on the "From people or public group" checkbox which is checked. Press **spacebar** to uncheck this condition.
6. Press **down arrow** to "With specific words in the subject". Press **spacebar** to check this condition.
7. Press **tab** to move to "Step 2". The focus starts on the "Specific words" link. Press **spacebar** to activate this link.
8. A dialog opens to type words which must appear in the subject. Type the word "report" and press **enter** twice to add the word and close the dialog.
9. Press **tab** to move to the "Finish" button and press **enter**, then **enter** again to close the "Rules and alerts" dialog.

Bonus Activity:

Create a folder called "Work" under the inbox. Edit the rule which moves messages with "report" in the subject, to move them to the "Work" folder. Ensure there is a rule to move messages from training1@nvaccess.org to "Stories". Send two messages to training1@nvaccess.org. Give one the subject "Quarterly report", and one the subject "lunch tomorrow". Note where the replies go. Edit the order of the rules to swap the two rules around and send the same two emails again. Note where the replies go this time.

6.5 Searching

Like other programs, searching in Outlook allows items to be found based on a word or phrase. From the message list, press **tab** to move to the search edit. From anywhere, press **control+e** to move to the search edit. Next, type the word or phrase to search for and press **enter** to search. If the focus was in the Inbox, Outlook will search in the current mailbox. This includes the sent items, drafts and other folders. If the focus was in another folder, Outlook will search only in that folder.

Outlook searches messages and attachments. If there are a lot of messages or attachments this can take 30 seconds or longer. Nothing is reported when results are found. At any time,

read the status bar with **NVDA+end** (Laptop: **NVDA+shift+end**) to report the number of results.

To move to the results, press **shift+tab**. While browsing results, the search may continue in the background. More matching items are added to the results as they are found.

When **control+tab** is pressed, if the search has not yet found any results, NVDA will report "Info bar, edit, read only". If results are subsequently found, NVDA will then report "Message, edit multi-line". If no results are found, nothing else will read.

When the focus is in the search edit, press the **down arrow** key to move through recent search terms. Press **enter** to perform the currently selected search.

If searching in a calendar folder, press **down arrow** to select what type of search to perform. A calendar search can be by keyword, the meeting organiser or the subject of the meeting.

Press **tab** to move to a dropdown list to select where to search. The options are "Current folder", "Subfolders", "Current mailbox" and "All Outlook items".

By default, Outlook returns messages which contain any of the searched words. For the search *dinner party*, Outlook returns emails which have either "dinner" or "party". To search for the phrase "Dinner party", enclose it in quotes: "Dinner party".

To search for a message from a specific sender, type "from:" before the name. Search for *from:training1* to find email from training1@nvaccess.org. *From:train* will find email from training1@nvaccess.org or training2@nvaccess.org.

To search in other fields, use *to:*, *cc:*, *bcc:*, *subject:* and *attachments:*.

Type *hasattachment:yes* or *hasattachment:true* to return only messages with attachments.

To search by date, use *received:*. The search: *received:=1/1/2019* finds only messages received on that date. Outlook can also find messages received *last week*, *Sunday* or *January*. The search *received:>=1/1/18 AND received:<=3/3/18* will find messages received between those dates.

Let's search for messages now:

Activity: Searching

1. Email training2@nvaccess.org with the subject "Grandma's birthday". Write an invitation to the party in the body.
2. Send the email. Check for new messages and download the reply when it arrives. Remember it may go into the "Stories" folder depending on the rules set.

3. Press **control+e** to move to the search edit.
4. Type *grandma* and press **enter** to start the search.
5. Wait a few seconds, then press **control+tab** to move to the preview pane.
6. NVDA should report "Message, edit, multi-line".
7. Press **control+shift+tab** to move back to the messages found.
8. Use the **arrow keys** to explore the results. There should be at least one result. There may be more results.
9. Press **escape** to close the search and return to the full message list.

Bonus Activity:

Send an email to training2@nvaccess.org, use the subject "Birthday for grandma". Search for *birthday grandma* and note which messages are listed. Next, search for "Birthday for grandma" in quotes and note whether there is a difference in results. Search for all messages sent either yesterday or today.

6.6 Assigning Categories

Categories can mark messages which need further attention. To categorize a message, select "Categorize" from the context menu. Press the **Application key**, then press **t** to choose "Categorize". Finally, select a category and press **enter**.

The default categories are colours, including: "Red", "Blue", "Green" and "orange". The first time a category is assigned, a dialog appears with the option to rename the category. A colour visually marks each categorized message. Each category can also have a shortcut key assigned to make it quicker to categorize messages. Shortcut keys available are **control+f2** through to **control+f12**.

Rules can assign one or more categories to messages when they arrive. Assign category is one of the advanced options when creating or editing rules. First select the criteria to match emails, such as sender, recipient or words in the subject. Then press **enter** to activate the "Next" button and move to "What do you want to do with the message" screen. One of the options is "assign it to the category category". When selected, the first instance of the word "Category" is a link to select the desired category. The categories window opens. Use the **arrow keys** to move through the categories. Add any new categories with the "New" button by pressing **alt+n**. Select existing categories with **spacebar**. Press **enter** when done.

The easiest way to display a list of messages in a category is to search for the category name. The default names are colours such as "Red category" and "Green category". If renaming categories, leaving "Category" as part of the name can help when searching. For instance, a search for "action needed" may find messages with such a common phrase in the message body. The phrase "Action needed Category" is less likely to occur in the text of

a message. Specify dates or "unread" to further narrow the search as well as category names.

When finished acting on a message, some users remove the category from the message. To remove the category, use the context menu, like when adding a category in the first place. Select the message, press the **Application key**, then press **t** for categories. From the submenu, either select the category, or press **enter** on "Clear all categories".

Let's assign some categories now:

Activity: Assigning categories

1. Select a message in the Inbox. If needed, send yourself a message.
2. Press the **Application key** to open the context menu.
3. Press **t** to open the "Categories" submenu, then select the "green category".
4. The "Rename Category" dialog appears only if this category has not been used yet. Press **enter** to close the dialog if it appears.
5. Press **control+e** to search.
6. Type "Green category" and press **enter** to perform the search.
7. After a few seconds, press **control+tab** to move to the preview of the first result.
8. Press **shift+tab** twice to move to the "Categories" header and have NVDA report the category.
9. Press **escape** to close the search.

Bonus Activity:

Press **alt+h** then **g** to open the "Categories" item on the Home ribbon. Select the "all categories" item to open the "Colour categories" dialog. Navigate through the dialog and rename two colour categories to more descriptive names. Ideas could be "needs reply", "incomplete", "in progress", "tax receipt", "recipe" or "instructions". Assign shortcuts to the updated categories to make it easy to assign them. Create a rule to apply a category to certain messages when they arrive. Choose the criteria based on real or made-up scenarios.

6.7 Creating a Signature

An Email signature is a block of information, often contact details, at the bottom of each message. While not directly related to organising, it does make emails look more professional. It also enables recipients to locate company information in work-related emails. Email from businesses usually includes a uniform signature. This corporate signature typically has contact details for the organisation or specific employee. Individuals sometimes include contact information, or a favourite quote in their signature. NVDA Certified Experts often include their accreditation in their email signature.

Signatures can be setup from the Home ribbon when creating a message. While editing a message, press **alt+h**, then **a**, then **s** to open the Signatures menu from the ribbon. Press the **down arrow** to select an existing signature to use. Press **enter** on the "Signatures..." item to open the "Signatures and stationary" dialog.

It is possible to have multiple signatures. This can be useful if using Outlook with both personal and work email addresses. Different signatures can also be useful for specific interest groups.

In the signatures and stationary dialog, press **alt+n** to create a new signature. Type a name for the signature in the edit box and press **enter** to create the signature.

Press **tab** to move through the options. "E-Mail account" is the account to use. This can be left as it is unless using more than one account. If using multiple accounts, choose the account to associate this signature with.

"New messages" is a drop-down where the signature to use for new messages can be set.

"Replies/Forwards" sets the signature to use (or none) when replying to or forwarding email. In a long conversation, a signature on every reply makes each email much longer. It is also harder to read back through previous messages in the conversation.

The first option in "Edit signature" is a font selection dialog. To keep the default options and edit the text of the signature itself, press **enter**.

Next, type the text to appear in the signature. When done, press **alt+s** to save, and **enter** to close.

New blank messages contain the signature specified in the "New Messages" option. The text appears under the caret. Type the message as normal and the signature appears after it. To use a different signature, press **alt+h**, then **a**, then **s** to open the Signatures option in the ribbon. Select the signature from the list and press **enter** to change to it. To remove the signature from the current message, select the text in the email and delete it.

While blank emails use a default signature, the signature can also be set when composing an email. Press **alt+h**, then **a**, then **s** to open the Signatures menu from the ribbon. Press the **down arrow** to select an existing signature and **enter** to use it in this message.

When editing a message, to remove the signature from the current message, select the text and press **delete**.

To edit or remove a signature entirely, open the signatures dialog from Outlook's options. Press **alt+f** then **t** to open Options, then press **control+tab** to move to the "Mail" category. Press **alt+n** to move to the "Signatures" button and **enter** to open the "Signatures and Stationary" dialog. To edit a signature, select it and press **tab** to move to the text edit, the

same as when creating the signature. To delete a signature, select it and press **alt+d** to delete it.

Let's create a signature now:

Activity: Creating a signature

1. Create a new message.
2. Press **alt+h**, then **a**, then **s** to open the signatures menu.
3. If NVDA reports "Signatures...", press **enter**, otherwise press **down arrow** to the "Signatures..." option, then press **enter**.
4. Press **alt+n** to create a new signature, type the name "Work" and press **enter**.
5. Press **tab** to "New messages" and then **down arrow** to select "Work".
6. Press **tab** until the focus is on "Font", then press **enter** to accept the font, and move to the edit field.
7. Type "I am an NVDA user".
8. Press **alt+s** to save and **enter** to close the Signature dialog.
9. Press **alt+f4** to close the email. If prompted to save changes, press **n** to choose "No".

Bonus Activity:

Create a second signature called "Outlook". Put your name on one line, and on a second line write "Sent from Outlook with NVDA". Set new messages to use the "Work" signature, replies and forwards to use the "Outlook" signature. Send an email to training1@nvaccess.org and forward the reply to yourself. When composing the two messages, look at the signatures used.

6.8 Using Tell Me

Signatures are available from the Home ribbon when composing a message. If wanting to edit signatures from the inbox, there is no ribbon option for them. To get to signatures from the inbox, open the File Menu, choose settings, then Mail, then Signatures. Another way to get to any feature uses the "Tell me" feature. Tell me is available in each program in Office 2016 and later.

Press **alt+q** to move to the "Tell me" edit box and type a feature or setting name. Use the **arrow keys** to move through the results, and press **enter** to activate the selected item.

To access signatures from the Inbox, press **alt+q**, then type "signature". If "Signatures..." is not selected, choose it, then press **enter**. As with searching in the Start menu, typing part of the word is often enough to locate the correct option.

Let's use Tell Me to explore signatures again now:

Activity: Using Tell Me

1. Ensure Outlook is open to the Inbox and press **alt+q** to move to the "Tell Me" edit.
2. Type "Signature".
3. Press **down arrow** to select "Signature sub-menu" and press **enter** to open the sub-menu.
4. Press **down arrow** to move through existing signatures. When the focus is on "Signatures...", press **enter**.
5. Edit the "Work" signature to read "I am a happy NVDA user".
6. Save the signature and close the dialog.
7. Press **alt+q** to move to Tell Me, and type "New".
8. Locate "New Message" in the results and press **enter** to create a new mail message.
9. Address the email to yourself and give it the subject "Tell Me". Read through the signature and at the top of the body write instructions for using Tell Me. Send the message.

Bonus Activity:

Select three messages in the Inbox. Use Tell me to mark the messages as unread. Open Notepad and write a reminder of something to do tomorrow morning (even if just "eat breakfast"). Save the file as "reminder" and return to Outlook. Create a new email and after addressing it to yourself, use Tell Me to attach the reminder file. Send the message and then close Outlook.

6.9 Organisation Review

This section covered some of the features in Outlook which can help keep email organised.

Some of the key concepts included:

- Creating a folder (**control+shift+e**)
- Creating mail rules (**Application key** then **s**)
- Advanced email rules (**alt+h**, then **r**, then **r**, then **l**)
- Editing and deleting rules
- Searching for mail (**control+e**)
- Assigning Categories (**Application key** then **t**, or once setup **control+f2** to **control+f12**)
- Creating an email signature (From compose screen, **alt+h**, then **a**, then **s**)
- Using Tell me (**alt+q**)

Activity: Organisation Review

1. Create a new folder under the Inbox called "Test".
 2. Create a rule which moves anything sent from yourself, with the word "test" in the subject, to the "test" folder.
 3. Send a message to yourself, and BCC training1@nvaccess.org. Write "quick test" in the subject. Ensure it is placed in the test folder when received.
 4. Edit the "test" rule to also assign messages to the "green" category.
 5. Edit the blue category to be called "Needs reply" and give it the shortcut of **control+f3**.
 6. Send a message to yourself with the subject "Another test". In the message write the steps for using Tell me".
 7. Search for messages from training1@nvaccess.org and note how many are reported in the status bar.
 8. Select all the results and use the **control+f3** shortcut to categorise them as needing a reply.
 9. Create a new signature with the text "Be Happy!". Leave the "Work" signature as the default for new messages. Send a message to yourself using the new signature.
-

7 Tasks

The aim of this section is to become proficient with Outlook tasks. Creating tasks and flagging messages for follow up helps set goals. Managing tasks and marking tasks as done ensures follow up is not forgotten.

Goals for this section:

- Creating a Task
- Marking tasks complete
- Creating tasks from email
- Updating Tasks
- Task views
- Assigning tasks to others

7.1 Creating a Task

Tasks are a feature of Outlook to keep track of things which need to be done.

Press **control+4** to open Outlook's "To-Do List" section. This section is set out like the mail section, with a list of tasks. Press **enter** on a task to open it and read or change information.

Like meeting requests, tasks can have a "Subject", "Start date" and "End date". Tasks also have an option to set a reminder, and a "Message edit", where extra information can be recorded.

Tasks have a "Status", to show the current state. The status can be "Not Started", "In Progress", "Completed", "Waiting on someone else" or "Deferred". Tasks also have a priority, which can be "low", "normal" or "high". An edit box specifies the percentage complete. Finally, a reminder can be set in the same way as for a calendar appointment.

Text must be typed or pasted into the subject field. Each of the other fields can be filled in by typing, or by using the arrows to select values.

The status, priority and percentage can be used to keep track of the progress of tasks.

To create a new task from the To-Do List, press **control+n**. To create a new task from anywhere in Outlook, press **control+shift+k**.

Let's create a task now to water the garden tomorrow:

Activity: Creating a Task

1. Open Outlook to the Inbox.
2. Press **control+4** to move to the To-Do List section.
3. Press **control+n** to create a new task.
4. The focus starts in the Subject field. Type "Water garden".
5. Press **tab** to move to the "Start date", then press the **down arrow** to select tomorrow's date.
6. Press **tab** to move through the other fields, noting their values.
7. Press **alt+s** to save the task.
8. Use the **arrow keys** to locate the newly created task. If this is the first task, press **NVDA+up arrow** (Laptop: **NVDA+I**) to read the current line. NVDA reports the details of the newly created task.
9. Leave Outlook's To-Do List open to return to next activity.

Bonus Activity:

Create a task to watch your favourite TV show tonight (or tomorrow night) at 8pm. When creating the task, set a reminder for 7:50 and set the priority to "High".

7.2 Marking Tasks Complete

The simplest way to use tasks is to mark tasks as complete when they are done.

In the To-Do List, to mark a task complete, open the context menu and press **m** to mark complete.

Once a task is marked complete, it is no longer shown on the default to-do list view. It is still possible to view completed tasks, which is covered later this section. If a finished task is deleted rather than marked complete, it may not be possible to view it.

Let's mark a task complete now:

Activity: Marking tasks complete

1. Make sure Outlook is open, with the focus in the To-Do list. Press **control+4** if needed to move to the To-Do list.
2. Press **control+n** to create a new task.
3. Type "Buy milk" in the subject.
4. Press **alt+s** to save and close the task.
5. Use the **arrow keys** to navigate the list of tasks.
6. Locate the "Buy milk" task in the list and press the **applications key** to open the context menu.
7. Press **m** to mark the task complete.
8. Use the **arrow keys** to browse the list of tasks and confirm the task has been removed.

9. Leave the To-Do list open to return to.

Bonus Activity:

Create a task to buy the newspaper next Saturday and set a suitable reminder. Locate the task created last bonus activity to watch a favourite TV show. Mark it as complete.

7.3 Creating Tasks from Email

As well as creating tasks from scratch, they can also be created from emails.

To create a task from an email, select the email then use "Follow Up" from the context menu. Press the **Application key**, then press **u** for Follow Up, then select when to follow up from the submenu. The options are Today **t**, Tomorrow **o**, This Week **w**, Next Week **n**, No Date **a**, Custom **c**, Add Reminder **r**, and Mark Complete **m**. Custom and Add Reminder both display a dialog box where "Start" and "Due" dates can be set. Custom has a "Reminder" checkbox which is not checked by default. Add Reminder has a checkbox which is set to add a reminder on the Due Date.

Mark Complete marks the task as complete. On an email, this can be useful to create a record that there was a task from this email, and it has been done already.

In the task list, all tasks are listed together, whether created as tasks, or from email. When an email task is opened, the email itself is opened rather than a task.

Let's create a task from an email, and mark one complete now:

Activity: Creating tasks from email

1. With Outlook to the Inbox, select any message and press the **Application key** to open the context menu.
2. Press **u** or select "Follow up".
3. Press **r** or select "Reminder". The custom follow up dialog opens.
4. Press **Tab** to move to the start date and type *tomorrow*.
5. Press **tab** to move around the rest of the dialog and **enter** to activate the "OK" button.
6. Press **control+4** to move to tasks.
7. Browse through the tasks, and locate the task just created from an email.
8. Press **enter** to open the task. Read the message then use **shift+tab** to navigate to the header section. Note that it is the email header.
9. Press **escape** to close the message, then leave Outlook open in the Task list for next activity.

Bonus Activity:

Locate two other emails which need to be acted on and create tasks from them. Include due dates and reminders. If needed, send yourself emails of actions you need to do in order to complete the activity. Move to the tasks section and create two more tasks which are not linked to emails. Note the differences between the two types of tasks. Leave Outlook open in the Task list.

7.4 Updating Tasks

Once a task has been created, there are several ways to monitor and mark its progress:

- Tasks can have due dates with a reminder like a calendar appointment.
- Tasks can also have a status. The status can be "Not started", "In Progress", "Completed", "Waiting on someone else" or "Deferred".
- Tasks can have a percentage complete.
- Tasks can have categories assigned, the same as emails and other items. These are colours and can be renamed.

Any of these features, or a combination of them, can be used to keep track of tasks. The approach used varies from person to person. The best strategy is to select which elements you will use, and to use them consistently.

A basic approach, used in the previous activity, is to mark tasks as complete when done. To mark a task as complete, select it from the list, open the context menu and select "Mark complete".

The status can be used to keep track of tasks which are waiting on input from others, or which are in progress. To assign a status to a task, first press **enter** to open the task. Next, **tab** to the "status", then use the **up arrow** and **down arrow** to select the new status. Press **alt+s** to save and close the task.

Percentage complete can be used in conjunction with status or alone. To change the percentage complete, open the task and press **alt+c** to jump to the "% Complete" spin button. Type a new value, then press **alt+s** to save and close the task.

Categories display a coloured square next to the task. Tasks can also be filtered to show only a chosen category. To change categories from the task list is done from the context menu. Press the **applications** key, then press **t** to select "Categories". Press **enter** to open Categories, select a new category and press **enter**. With a task open, press **alt+h** then **g** to access the same submenu. From the categories submenu, choose "All categories" to open the category dialog. To select a category in the dialog, use the **arrow keys** to locate the desired category, then press **spacebar**. To rename a category, choose it, then press **f2**. Categories can also be added or deleted, and the colour changed from this dialog.

Let's have a look at updating tasks now:

Activity: Updating Tasks

1. Create a task to "Update status".
2. Press **tab** to the "Status".
3. Press the **down arrow** to set the status of the task to "In-Progress".
4. Press **alt+h**, then **w** to open "Follow up" from the Home Ribbon, and press **enter** on "Today".
5. Press **control+t** to move to the "Start date", then **tab** to "due date". Note that both have been set to today's date.
6. Press **alt+s** to save and close the task.
7. Use the **up arrow** and **down arrow** to move through the tasks.
8. Locate the task created this activity, open the context menu, and press **m** to mark it as complete.
9. Move through the tasks. Note that the task has disappeared.

Bonus Activity:

Create a task from an email. Open the created task from the task list. Note that there are no options for start or due dates, status or percent complete. Select "Follow up" from the home ribbon and choose "Custom...". From the "Flag to" list, select "For your information". In the "Start Date", type the word "Today". In the "Due Date", type the word "Tomorrow". Note how these are converted to dates when **tab** is pressed. Activate the OK button, then save the task.

7.5 Task Views

The default appearance of tasks is like that of email. Tasks are in a list in the centre of the window, with a preview of further information on the right. In the previous activity, the status of a task was set. This status was not communicated when the task was selected in the list. There are several other views available which can highlight different types of information.

To change views, press **alt+v** to open the View Ribbon. Next, press **c**, then **v** to open the "Change View" options.

In some versions of Outlook, press **tab** to move between the options, which are presented in a grid. In other versions (including Office 365), **tab** only moves between the menu items to the selected view in the grid. In this case use the **arrow keys** to move within the grid. Note that **arrow keys** only move through the current row or column.

The View options are:

- Detailed: Press **tab** to move between columns
- Simple List: Fewer details read during navigation
- To-Do List: Default view
- Prioritized: Ordered by priority; can expand or collapse priority groups

- Active: Lists only "active" tasks (not completed)
- Completed: Lists only "completed" tasks (not active)
- Today: Lists only tasks due today
- Next 7 Days: Tasks due within the next week
- Overdue: Tasks which are overdue
- Assigned: Tasks which have been assigned to someone
- Server tasks: Shows who tasks have been assigned to

To reverse the order the tasks are displayed in, press **alt+v**, then **r**, then **s**.

Be sure you have done the previous two tasks, then let's explore task views now:

Activity: Task views

1. Ensure Outlook is open to Tasks and use the **up arrow** and **down arrow** to read through the tasks.
2. Create a new task with the subject "Get paper from John". Set the status to "Waiting on someone else".
3. Press **alt+h**, then **c**, then **v** to open the task view item.
4. Press **tab** or **arrows** to move through the items. Select the "Details" view and press **enter**.
5. Move through the tasks and note the information provided, particularly on the task created in step 2.
6. Repeat steps 3 - 5 to select "To-Do list" view. Explore the information provided.
7. Press **alt+v**, then **r**, then **s** to reverse the sort order.
8. Read through the tasks and note that the order is reversed.
9. Repeat steps 7 and 8 to reverse the sort order back to its original setting, then close Outlook.

Bonus Activity:

Open Outlook. Mark the task to "Get paper from John" as due today. Set the view to "Today" and note how it only lists tasks due today. Mark that task as complete. Change the view to "Completed" and move through the displayed tasks. Set the view to your preferred view, then close Outlook.

7.6 Assigning Tasks

It is possible to delegate, or assign tasks to others to complete. When a task is assigned to someone, they receive an email with the details of the tasks. The email includes a request to reply with the status of the task.

To assign a task to someone, create a new task, not a task from email. With the task open, press **alt+h** then **b**. A "To" field is added to the task. Type a recipient in the To field like when writing an email. Once done, press **alt+s** to send the task.

The recipient receives an email which they can add to their tasks. They can also "Send status report".

To send an email status report on any task (whether it is assigned to you or not), can be done from the task. Open the task, then press **alt+h**, then **o**, then **1**. This creates an email with the focus in the "To" field. The task subject is in the subject line preceded by "Task status report: ". The body of the message contains "-----Original Task-----" followed by the details of the task. Fill in the To field as normal, then type any updates on the task progress in the body, above the original task text. When done, send the message with **alt+s**.

It is possible to send tasks to users who do not use Outlook. These recipients will get an email with the details of the task. The text is the same as the text in the status report.

Let's look at assigning tasks now:

Activity: Assigning tasks

1. Open Outlook to Tasks. Create a new task with the subject "Write important report".
2. Press **alt+h**, then **b** to "assign task".
3. Press **tab** to move through the options and note the "Send" button and "To" field.
4. Press **alt+h**, then **x** to cancel the assignment.
5. Press **alt+s** to save the task and close it.
6. Locate the task in the task list and open it.
7. Press **alt+h**, then **o**, then **1** to send a status report. An email opens as described above.
8. Address the email to yourself. In the body write that you are working on the report now and send it.
9. Press **control+1** to go to mail and read the message when it comes in.

Bonus Activity:

Open Word and write the heading "Important report". Save the document as "Important report". In Outlook, locate the task to write important report. Send a status report to yourself, advising that you have completed it. Attach the report to the email and send it. Mark the task as complete.

7.7 Tasks Review

This section covered features in Outlook for creating and managing tasks.

Some of the key concepts included:

- Moving to the task list (**control+4**)
- Creating tasks (**control+n** from task section, or **control+shift+k** from anywhere)
- Marking tasks complete (**applications key**, then **m**)
- Creating tasks to follow up from email (**applications key**, then **u**)
- Editing and updating tasks (**enter** then **tab** through options)
- Task views (**alt+h**, then **c**, then **v**)
- Assigning tasks to others (**alt+h**, then **b** when creating a task)

Activity: Tasks Review

1. Create a new task which is due tomorrow and high priority. Give it the subject "Review task creation skills."
 2. Write an email to yourself with the subject, "Task skills review". In the body, write one paragraph on how to assign tasks to others. Send the message.
 3. Check for new messages. When the email from step 2 is received, create a task from it to follow up next week.
 4. Edit the initial task to mark it as "In-Process, and 25% complete". In the body of the task, write a paragraph explaining the difference between tasks created from scratch and those created from an email.
 5. Locate the task created from the email and mark it complete.
 6. Change the task view to Completed and browse the completed tasks.
 7. Reply to the email from step 2 and in the body of the reply, write a paragraph about two different task views. Send the email.
 8. Set the task view to detailed and browse the tasks.
 9. Mark the review task creation skills task as complete and close Outlook.
-

8 Other Outlook Features

The aim of this section is to cover some of Outlook's other features. These are useful functions which are not as well-known as mail or the calendar.

Goals for this section:

- Using notes
- Advanced folders
- Journal
- Searching
- Advanced Find

- Archiving, Deleting and conversations
- Mailbox cleanup
- Exporting

8.1 Using Notes

Notes are a place to jot down ideas or other information which does not fit elsewhere.

Press **control+5** to move to the Notes section of Outlook.

Press **control+n** to create a new note.

Use the **arrow** keys to navigate through notes and **enter** to open a note. Notes appear in a small window which is entirely coloured. The simple layout aims to evoke the idea of paper post-it notes. Notes only contain one field to enter text. Notes can have a category assigned, the same as tasks. When viewing or editing a note, to save any changes and close it, press **escape**.

The default layout for notes is icons, which may not be in a neat row or column. Changing the view to "Notes list" ensures that notes are in a list the same as emails or tasks. To change the view press **alt+v**, then **c**, then **v**, then **right arrow** to "Notes list" and press **enter**.

To copy an entire note, select it in the list and press **control+c**. This copies the text as well as when it was created and any categories it is in. Note that this tip also works for copying email subject lines.

A new note can be created by copying text to the clipboard and pasting it in the notes section.

Activity: Using notes

1. Open Outlook and press **control+5** to move to the notes section.
2. Press **alt+v**, then **c**, then **v**, to open the "Change view" option on the view ribbon.
3. Press **right arrow** to "Notes list" and press **enter** to change to this view.
4. Press **control+n** to create a new note.
5. Type "6 Across: Consumes a portion of meat stew (4)" then press **escape** to close the note.
6. Use the **arrow** keys to locate the note in the list.
7. Press **enter** to open the note and read it.
8. Add the text "Eats" to the note and press **escape** to close it.
9. Close Outlook.

Bonus Activity:

Open your favourite website. Select a paragraph of text on the main page and copy it. Open the Notes section of Outlook. Paste the text into the notes section to create a new note. Delete the note created in the main activity. Locate the note copied from the web page. Categorize it in the purple category. Open the note and read the text before Closing Outlook.

8.2 Advanced Folders

Press **control+6** to access all folders. The folder list displays every folder in Outlook. This includes the mail folders, the calendar, contacts, notes, tasks and other folders. The focus initially stays in the current folder and NVDA does not report the change.

All folders can be useful when using an Exchange server. Some organisations provide access to network folders through Outlook.

Press **control+shift+tab** or **shift+f6** to move the focus to the folder list. Press the **arrow keys** to move through the list. Press **enter** on a folder to move into it. The view will change to the default view for that folder, e.g. contacts or calendar.

The list of folders is the same as that displayed with **control+y**.

Being able to create folders is useful when using email. Folders can sort mail into projects and other categories. It is possible to create new folders in any of the other sections in Outlook as well. Several examples where folders can be useful in other Outlook sections:

- Having a separate list of contacts for a project
- A calendar of conference events to share with colleagues at the same conference.
- separate task lists for different projects and home.

Press **control+shift+e** to create a new folder. To move an item to a different folder, press **control+shift+v**. To create a new folder while this dialog is open, press **alt+n**. When creating a folder, there is a drop-down list to select the type of items the folder will contain. Email folders contain mail, the calendar contains calendar items, task folders contain tasks, etc. When creating new folders, ensure that this is set accurately.

For many items, the focus needs to be in the folder the item is in for it to be listed. There are several exceptions. When viewing calendars with **control+2**, the list of calendars on the left is checkboxes. Any calendar which is checked, is viewable on the right. When viewing tasks, the main "To-do list" folder lists tasks from all sub-folders.

In mail, there is a "Favourites" section above the folders. Favourites provides access to chosen folders together in one group. To add folders to favourites, first press **control+shift+tab** to move to the folder list. Next, locate the desired folder, then press the **applications key** to open the context menu. Select "Add to favourites". To remove an item from favourites, first select it in the favourites list. From the context menu choose "Remove from favourites".

Let's explore all folders now:

Activity: Advanced folders

1. Open Outlook and press **control+4** to move to tasks.
2. Create a new task to explore folders.
3. Select the new task and press **control+shift+v**.
4. Use the **arrow keys** to ensure the "Tasks" folder is selected, then press **alt+n** to create a new folder.
5. Type "Operation Explore" and press **enter** to create the folder.
6. Press **enter** to move the task to the newly created folder.
7. Press **control+y** to open the "Go to folder" dialog.
8. Select the "Operation Explore" folder and press **enter**.
9. Confirm the task in this folder, then leave Outlook open to return to next activity.

Bonus Activity:

Move the focus to "My tasks". Locate the explore folders task in the list and note the folder it is reported in. Move to the email section and add a folder to favourites. Open the "all folders" section. Move to the folder list and explore the folders. Navigate to the "sent items folder" and open it. Close Outlook.

8.3 Journal

Press **control+7** to open a "shortcuts" section. Like the all folders section, the focus does not move but the folder list on the left changes to show "My Shortcuts". These comprise "Outlook today" and "Microsoft Office Online".

Moving across the number row, the last shortcut, **control+8** opens the Journal. The journal in Outlook provides a way of recording activity. Many types of events and activities are available. Activities include telephone calls, meetings, letters, and working on documents. To create a new journal entry, press **control+n** from within the journal section. The first field is the subject. Press **tab** to move to the "Entry type", then use the **up and down arrows** to move through the different entry types. Other options are "company", a text field to record the company name, start date and time and duration. Finally, there is a large "Message" edit, where details of the event can be recorded in more detail.

The default "Timeline" view does not read well with NVDA. Changing to "List" view displays the entries in a list, just like other items in Outlook. Press **alt+v** to open the view ribbon, then press **c**, then **v** to change view. Press the **right arrow** to select "entry list" and press **enter**.

Journal entries can also have a category. Select categories from the ribbon with **alt+h** then **g** when editing an item, or from the list of journal entries. The category can also be selected from the context menu.

Let's create a journal entry now:

Activity: Creating a journal entry

1. Open Outlook and press **control+8** to move to the Journal.
2. Press **alt+v**, then **c**, then **v** to move to the Change View section of the ribbon.
3. Press the **right arrow** to select "List" and press **enter**.
4. Press **control+n** to create a new journal entry and type "Telephone client" for the subject.
5. Press **tab** to move to the "entry type" and use the **arrow keys** to read the options.
6. Select "Telephone call" and press **enter**.
7. Press **tab** to move past "start time" and note it is set to now, then set "Duration" to 30 minutes.
8. Press **alt+s** to save and close the journal entry.
9. Browse the list of journal entries, or press **NVDA+up arrow** (Laptop: **NVDA+l**) if this is the only entry. When done, close Outlook.

Bonus Activity:

Create another journal entry. Record two hours using an Excel spreadsheet, to calculate project options and cost.

8.4 Searching

From within any section of Outlook, press **control+e** to move to the search edit. From here, either type something to search for, or press the **down arrow** to select a previous search to repeat. Press **enter** to perform the search. In the mail section, the scope of the search can be widened. Press **tab** to move to the "Search Scope" drop-down list, then press **enter** to open the list. Use the **arrow keys** to navigate the list. Select either "Current Folder", "Subfolders", "Current mailbox" or "All Outlook Items". "All mailboxes" is an option in this list if there are multiple email accounts setup.

Press **enter** to perform the search. The list view changes to show results which match the search criteria. The focus stays in the search edit. Press **NVDA+end** (Laptop: **NVDA+shift+end**) to read the status bar, which reports the number of matching items. Press **shift+tab** to move from the search edit to the list view of search results.

In Mail, press **tab** to move past the search options to options to sort and filter the results. The first two options are "Show all", and "Unread", which are identified as toggle buttons.

Press **enter** on either one to set the view to show those items and move to the first one. The next option is a drop-down list to set the sort order. By default, this is set to "By date". Mail can be sorted by any of their properties, such as sender, subject or category. The last option before the focus moves to the list of results is a button to reverse the sort order. Results can be sorted A to Z or Z to A, or whether newest or oldest are first, etc., depending on sort order. For items other than mail, these options are all available via the search ribbon.

Once finished, press **escape** to close the search. The view returns to the regular view of the current category.

When the focus is on any of the search controls, press **alt**, then **j**, then **s** to open the search ribbon. From here, the scope of the search can be set. Otherwise, it is only possible to widen the search scope from the mail category search. Press **m**, then **r** to search for specific properties. For instance, search for mail with attachments, or appointments which are recurring. From the search ribbon, press **n** to open "Recent searches" to select a previous search.

Let's search now:

Activity: Searching

1. Create a new mail message addressed to yourself. Give it the subject "The first postage stamp". In the body write "the Penny Black was issued in the UK in 1840".
2. Send the message, then check for mail (if there is no internet connection, save the message in drafts).
3. Reply to the message, commenting that the second stamp was also a Penny Black, since they made 68 million of them. Save that message to drafts.
4. Press **control+e** to search.
5. Type *penny* and press **enter** to search.
6. Press **NVDA+end** (Laptop: **NVDA+shift+end**) to read the number of results in the status bar.
7. Press **shift+tab** to move the focus to the first result.
8. Use the **arrow keys** to explore all the results, and then open and read the first message sent this activity.
9. Press **escape** to exit the search results and return to the inbox. Leave Outlook open to return to next activity.

Bonus Activity:

Create an appointment tomorrow to "post letter to pen pal", and one for next Saturday to "Sleep in". Search in the calendar for "sleep" and open the first result. Return to the inbox,

then perform a search in "all Outlook items" for "post". Read through the results, then return to the inbox and leave Outlook open.

8.5 Advanced Find

Outlook has an advanced find function. Press **control+shift+f** to open the "Advanced find" dialog. Press **tab** to move through the options on this dialog box. As well as being able to specify a search term, where to search can be set. The scope of the search can be set to search in specific fields. The scope can be in the "Subject field only", "Subject field and message body", or "frequently used text fields". The sender, recipients and folder the email is in can all be specified.

Once all required options are set, press **enter** to search. The results appear in a pane of the advanced find dialog. Press **f6** to move to the first results. Reading the status bar in the advanced find search results only reports the search term. Outlook displays the results in a table. NVDA's Object Presentation settings has an item called "Report object position information". If this is checked, NVDA reports each item's location. NVDA reads "1 of 20" after the information about the first result (where 20 is the number of results).

Press **enter** to open the selected search result. This opens the item, where any of the regular actions can be performed. Press **escape** to close the advanced find dialog and return to the current folder.

Advanced find works in any category. Some of the options are a little different between categories. The calendar does not display sender and recipient fields. Instead, there are fields to specify "Organised by" and "Attendees". In contacts, the email address of the contact to locate can be specified.

It is possible to search for any item type. From the advanced find dialog, press **alt+k** or press **tab** until the focus is on the "look for" drop-down. As soon as the selection changes, the fields adjust to the new selection type. When the selection changes, the focus moves back to the search edit. The options in the list include each Outlook object type in alphabetical order. The options are:

- Any type of Outlook item
- Appointments and Meetings
- Contacts
- Files (Outlook/Exchange)
- Journal Entries
- Messages
- Notes
- Tasks

The most efficient way to change categories is with the shortcut key. Press **alt+k**, then press the first letter of the category to change to. **H**ome can also be used to jump to the top, to "Any type of Outlook item". Changing to "Any type of Outlook item" needs to be done from within the advanced find dialog. To search in a specific category, change to the desired

Outlook category first. The default category in the advanced find dialog is the item type for the current folder. Once a category to "Look for" has been chosen, the folder to look "In" can also be set. This will be set to the main folder for the type of item set to "Look for". Press **alt+b** to browse for a folder.

Press **control+tab** to move to "More choices". In this tab, categories can be specified as well as other attributes. For instance, mail items with attachments, which are unread or of a certain size. Press **control+tab** again to move to the advanced page. On this page, individual criteria can be set. On the advanced page, specify a field, a criteria, and a value.

Let's use the advanced find dialog now:

Activity: Advanced find

1. Open contacts and create a new contact for Penny Black, with a phone number of 123 456 789.
2. Open Notes and write a note "The penny black stamp cost 1 penny and had an image of Queen Victoria".
3. Press **control+shift+f** to open the Advanced Find dialog.
4. Press **alt+k** to move to the "Look for" drop-down.
5. Press **home** to select "Any type of Outlook item". The selection changes and the focus moves back to the search edit.
6. Type the word "Penny" and press **enter**.
7. Press **f6** to move to the first result.
8. Use the **arrow keys** to move between results. Read the note, then read the details of the contact created this activity.
9. Close Outlook.

Bonus Activity:

Perform an advanced search for all outlook items with "Penny" in the subject. Read through the results. Set the category of the sent mail item, and the note the "yellow" category. Perform another advanced search for all outlook items with "Penny" in the subject. This time restrict the search to items with the yellow category set. Read the results then close Outlook.

8.6 Archiving, Deleting and Conversations

Deleting messages has been covered as a way of removing messages which are no longer needed. With any item in Outlook selected, press **delete** to move it to the bin. Depending on the settings of your email provider, they may empty the bin regularly. There is also a setting to empty the bin when closing Outlook, or it can be emptied manually. Press **control+delete** to remove a whole mail conversation. This command also deletes any

future messages in the conversation as they arrive. A conversation is a message and any replies to it, and replies to the replies, and so on.

There is an option on the View ribbon to display messages in conversations. Press **alt+v**, then **g**, then **c** to toggle this on or off. When on, press the **right arrow** to "expand" a collapsed conversation. Press the **left arrow** to collapse a conversation. Messages not in a conversation are at "level 1". Messages in a conversation are at "level 2". Replies to those messages are at "level 3" and so on.

Press **shift+delete** to permanently delete an item. This bypasses the bin folder and completely removes the item. This works on any type of Outlook item and cannot be undone.

Another way of managing email is to archive it. Instead of pressing **delete** to delete a message, press **backspace** to archive it. When a message is archived, it goes into the "[Archive]" folder. Moving messages to this folder keeps the Inbox and other folders free of clutter. Archived messages can still be found when searching.

The first time **backspace** is pressed, Outlook prompts to create an archive folder if one has not been setup. Press **enter** to create a folder. Press **tab** then **enter** to select an existing folder to use as the archive folder.

Like when deleting items, when archiving a message, NVDA does not report the action. The focus moves to the next message, and NVDA reports the details of the new message. The archive folder appears as a regular folder in Outlook. To move a message from the archive to the Inbox, or another folder, move it the same as moving any other message.

Let's archive a message now:

Activity: Archiving, deleting and conversations.

1. Locate "The first postage stamp" message in the Inbox from the previous activity.
2. Press **backspace** to archive it. If prompted to create an archive folder, press **enter**.
3. Move through the Inbox and note that the postage stamp message is no longer there.
4. Move to the drafts folder. Locate the reply to the postage stamp message created in the previous activity.
5. Press **shift+delete** to permanently delete this. When the dialog appears, press **enter** to confirm this action.
6. Press **control+e**, type "stamp", then press **enter**.
7. Read the results, which include the archived messages.
8. Press **escape** to close the search.

9. Browse through the messages to confirm that the search has closed. Leave Outlook open to return to.

Bonus Activity:

Select a message from the sent items folder and archive it. Navigate to the archive folder and browse the messages in the folder. Move the first postage stamp message to the Inbox.

8.7 Mailbox Cleanup

Over time, mail is sent and received, and calendar events and other items are created. Outlook itself does not limit the number of items which can be created or stored. Most email is stored on the "server", which means as well as the PC, it can be accessed on mobile and other devices. Many email servers have a limit on the amount of space allocated to each user. Users may need to delete items when they are approaching their allocated storage space. If the mailbox gets full items may need to be deleted to keep receiving new mail.

One method is to manually delete items to free up space. Outlook also provides tools to help free up space, as well as show how much is used.

Press **alt+f** then **i** to open the Info tab from the File menu. Press **t** to move to "Mailbox Settings" and **m** (or **enter**) to open the first item, "Mailbox Cleanup".

Press **alt+m** to view the mailbox size. When the dialog loads, press **down arrow** once to read the total size, and the size of the first folder. The folders are listed in alphabetical order. This dialog can be useful for ascertaining the size of various folders. In general, a folder with 5,000 items in it is going to be much larger than a folder with 15 items in it. Press **escape** to close the dialog.

The next item in the mailbox cleanup dialog is the "find" function. Find allows you to specify either an age in days, or a size in kilobytes. The function can then locate all items which exceed that limit. When the mailbox cleanup dialog opens, the focus is on the Find button. Press **shift+tab** to move to the options to specify either a size or age. Alternatively, press **alt+o** to find items older than the limit or **alt+l** to find items larger than the size specified. From either, press **tab** to move to the edit box to specify the threshold. Press **enter** or **alt+f** to press **find**. The advanced find dialog opens and performs a search for all items which meet the criteria. The focus in the advanced find dialog is on the "Stop" button. When the focus moves to the "Find now" button, the search has completed. Press **f6** to move to the first result which will read out the total number of results.

The next option in mailbox cleanup is "Autoarchive". When this button is pressed, Outlook will move all old items to the archive folder. Press **alt+a** to activate this button from anywhere in the dialog.

The next button is "Empty" to empty the deleted items folder. Press **alt+e** to activate this. Press **alt+i** to activate the "View deleted items size" button. This opens the folder size dialog but only showing the deleted items.

Press **alt+d** to delete all alternate versions of items in your mailbox, and **alt+c** to view the size of all the conflicts.

Press **escape** to close the "Mailbox cleanup" dialog.

Mailbox cleanup was the first item on the "Tools" option in the Info tab. There were a lot of keystrokes in this topic. It is most useful to concentrate on learning shortcuts for items used quite often. Once inside the dialogs, the regular navigation keys of **tab** and **enter** to activate buttons can be used. To get to Info tab, tools, press **alt+f**, then **i**, then **t**. From this list, the other options are "Empty deleted items", "Clean up old items" and "Set archive folder". The first two options work the same as the items discussed in this topic. "Set archive folder" was covered in the previous topic on archiving.

Let's explore mailbox cleanup now:

Activity: Mailbox cleanup

1. Ensure Outlook is open and press **alt+f**, then **i** to open the "Info" tab.
2. Press **t** for Mailbox settings, then press **enter** to open "Mailbox Cleanup".
3. Press **tab** to move through the options in the dialog, until the focus is on "View mailbox size".
4. Press **enter** to open "View mailbox size", then press **down arrow** to move the focus to the first item.
5. Press **down arrow** to move through the other items and note which are particularly large.
6. Press **escape** to close the folder size dialog.
7. Press **alt+o** to select "find items older than", then press **enter** to find items older than the default 90 days.
8. When the advanced find dialog appears and the search is complete, press **f6** to move to the first result.
9. Note how many results there are. Press **escape** three times to close the advanced find dialog, mailbox cleanup, and info pane.

Bonus Activity:

Write an email to yourself. In the email, type the steps to open the mailbox cleanup dialog. Type the size of the Inbox, sent items, and archive folders. View the deleted items folder, note its total size and record that in the email as well. Send the email. If you are ready to clean up mail, run any of the tools to remove old, large or unneeded mail.

8.8 Exporting

It is very important to backup information, just in case the original is lost. Even though most email is stored on the server, it is still possible something could happen to that. Also, depending on your account, not every Outlook item may be stored online.

One way to backup from Outlook is to "export" the data. To do this, press **alt+f**, then **o** to go to the "Open and Export" page of the File menu. Next, press **i** to select "Import / Export".

The import / export wizard has options for several different formats. To backup data, the main option used is "Export to a file". If needed at a future time, this data can be imported. To import data, choose "Import from another program or file" from this screen. When "Export to a file" is chosen, the type of file can be selected. Comma separated values exports data into plain text with each "field" separated by a comma. "Outlook Data File .pst" exports data into a format which can be easily imported back into Outlook.

Once a format is chosen, the next screen displays the list of Outlook folders. Choose the folder to backup. To backup everything, press **home** and backup the highest-level folder in the tree. Press **tab** to move to the "include subfolders" checkbox. This is checked by default. Only uncheck this if wanting to backup a specific folder and not any of the folders under this. The next button is "Filter". Pressing this opens a dialog which is like the advanced find dialog. Using the filter, criteria can be specified, to back up only items which meet that criteria. So, all messages from a specific sender could be backed up at once. The last screen has an edit box to specify where to export the data to. By default, Outlook will export to a file called "backup.pst". Outlook saves this file in a folder called "Outlook Files" under the documents folder.

Once a backup file has been created, it's a good idea to copy it to a USB or removeable hard drive. Add other important documents, then store it in a safe place. Be sure to make new backups regularly. If they ever need to be restored, having a very recent copy of them minimises the data lost.

Let's create a backup .pst file now:

Activity: Exporting

1. With Outlook open, press **alt+f**, then **o** to access "Open and Export" from the File menu.
2. Press **i** to activate the "import / export" button and open the wizard.
3. Use the **arrow keys** to select "Export to a file" and press **enter**.
4. Press the **down arrow** to select "Outlook data file (.pst)" and press **enter**.
5. Use the **arrow keys** to select the "Contacts" folder and press **enter**.
6. Ensure the path is the "Outlook files" subfolder of the documents folder. The filename should be "backup.pst". Confirm these are correct, then press **enter**.

7. The last dialog asks for a password. Press **enter** to leave this blank and create the backup.
8. Press **windows+e** to open File Explorer. Navigate to the Outlook backup file just created and read the size.
9. Close File Manager and Outlook.

Bonus Activity:

Create another backup of the contacts in the same location. This time call it "Contacts" and make it a "Comma separated values (.csv)" file. Locate and open the file in either Notepad or Microsoft Excel. Read the file and close the program.

8.9 Other Outlook Features Review

This section covered features in Outlook not previously covered.

Some of the key concepts included:

- Using notes (**control+5**)
- Advanced folders (**control+6**)
- Journal (**control+8**)
- Searching (**control+e**)
- Advanced Find (**control+shift+f**)
- Deleting messages (**delete**)
- Archiving messages (**backspace**)
- Using conversations (**alt+v, g, c**)
- Mailbox cleanup (**alt+f, i, t, enter**)
- Exporting (**alt+f, o, i**)

Activity: Other Outlook Features Review

1. Create a note. In the note, write down what each of the shortcuts **control+1** through to **control+6** do.
2. Create an email rule to catch all emails sent from your address which are only sent to yourself. Set the rule to assign these messages to the orange category.
3. Create a blank email to yourself. Copy the contents of the note about shortcuts into the body and send the email.
4. When the email is received, note that it is categorized orange, then archive it.
5. Create a journal entry about sending a mail message to yourself. Include the contents of the note in it.
6. Search in email for the word "contacts" and note the number of results.
7. Use advanced find to find any type of Outlook items, in all folders. Search for files created today, with the word "mail" in frequently-used text fields.

8. Use Mailbox cleanup to view the deleted items size, and the entire mailbox size. Copy these values into a note.
 9. If you have a removable hard drive or USB available, create a full backup of your Outlook data. Copy the backup, along with any other important documents, to the removable drive. Place the drive in a secure location.
-

9 Outlook Options

This section is laid out differently to previous sections. The activities only navigate to the various settings and options. It is left up to you to decide whether to change any settings. If unsure about an option, then it is safer to leave it in its original state. There are no bonus activities in this section.

Goals for this section include:

- Navigating the various options screens
- Understanding where to find different options
- Setting up the options in Word to best meet individual needs and preferences

9.1 General Options

Like other programs in the Microsoft Office Suite, Outlook has many options. These change various aspects of the experience. Different configurations will appeal to different users.

Press **alt+f** to open the File menu, then **t** to open the Options window. The focus starts in the "General" options.

The options available in this category are broken up into a range of topic groups. The name of each group is announced as the focus moves from one group to another. User Interface Options customise several aspects of the appearance. Personalise your copy of Microsoft Office sets your name and initials. These identify the author of documents. They also distinguish multiple users when commenting on documents. It also contains options to change the theme. Some low-vision users find the "Black" theme has less glare.

Office Intelligent services collect all your searches and document content. In exchange, Microsoft offer to try to provide more applicable search results.

Startup options check whether Outlook is the default for email, contacts and calendar. The default program is used when activating a local file in File Explorer, or a link on a web page. One common example for Outlook is an email address on a web page. Attachment options set how documents on OneDrive are shared via email. Options are to share links to the document, or to send copies as attachments. Outlook notes that LinkedIn Features let you "Stay connected with your professional network and keep up to date in your industry".

Many of these options are available in all Microsoft Office applications. They will be familiar to those who have completed the "Microsoft Word for NVDA" module. Some options, such as user name, are the same throughout the office suite. Changing an option such as user name in Outlook affects the user name in other Office programs such as Word.

Once finished with the options, press **enter** to save any changes made and close the dialog. Press **escape** to close the options without saving changes.

Let's explore Outlook's General options now:

Activity: General Options

1. Open Outlook.
2. Press **alt+f** to open the File menu.
3. Press **t** to open the Options. The focus starts on the "General" page.
4. Press **tab** once to move to the first option in the "user interface grouping". Turning off options here may improve performance.
5. Press **tab** until the focus is in the "Personalise your copy of Microsoft Office" grouping. These options can be used to set username and initials. There are also options to change the colours of the ribbon and settings screens.
6. Press **tab** to move through the options until the focus is on the "Categories list".
7. Press the **down arrow** to move through the categories.
8. Press **enter** to activate the OK button and close the options.
9. Close Outlook.

9.2 Mail Options

The second category in Outlook's options is mail options. With the options screen open on the General category, press **control+tab** once to move to mail options.

The mail options contain settings which only relate to mail. Like General options, mail options are organised into sections. Many individual options are checkboxes. Toggle checkboxes with the **spacebar**. Some options open dialogs with settings related to a particular feature. Press **enter** or **spacebar** on these to open the dialog.

The compose message section contains options for writing messages. Options control editing, spell checking and signatures. Whether to compose messages in HTML or plain text can be set here. There is an option to compose messages in Rich text. Users who do not use Outlook may have trouble reading rich text messages. Message arrival options control what notifications Outlook generates when new mail arrives. Conversation clean up options control how that feature works. Conversation clean up is covered in the previous section. Replies and forwards set the behaviour when replying to or forwarding email. Save message options specify how often to save drafts during editing. Which copies of messages to keep can also be set. Send messages sounds similar, but controls options for sending mail.

Tracking sets options for sending and receiving delivery and read receipts for mail. These are automatic replies to say that someone has received, or read, an email. Do not enable this for all messages, but only for specific, important messages.

Message format contains some more options for outgoing messages. The "Other" section contains mail options which did not fit in a previous section. The paste options button is the same as in Word. When checked, the paste options button appears when pasting text into an email. Press **control** to open a menu to choose the format to use.

Let's explore the mail options now:

Activity: Mail options

1. Open Outlook.
2. Press **alt+f** then **t** to open options.
3. Press **control+tab** to move to "Mail" options.
4. Press **tab** to move to the "Spelling and autocorrect" button.
5. Press **enter** to activate the button.
6. Press **tab** to move through the options in the Spelling and Autocorrect dialog.
7. Press **escape** to close the dialog.
8. Press **tab** to move through the remaining "Mail" options. Particularly note the options for mail arrival, conversation clean-up and save messages.
9. Press **enter** to activate the OK button and close the options, then close Outlook.

9.3 Calendar Options

The third options category is Calendar options.

The first group of options allows the "Work time" to be set. Visually, this changes the colour of working time on the calendar. When using "Work week" view to view the calendar, the days and times displayed correspond to those set here.

The default length for meetings and time before meetings for reminders can be set. Changing the default reminder time only affects new meetings created from now on. To update an existing meeting, edit the meeting itself and change the reminder time.

Holidays for different countries can be added to the calendar.

Enable a different calendar allows the use of a non-English or non-Gregorian calendar. The default time zone can be set and extra time zones can also be added. This can be useful if working between different time zones.

There are also options to automatically accept or decline meetings. Additionally, how and when alternate meeting times can be proposed can be chosen.

The last section of options in the Calendar category is weather. When enabled, Outlook displays the weather above the calendars and below the ribbon. To access this with the keyboard, press **control+tab** from the calendar. Press **tab** to move through the options for the current display.

Activity: Calendar Options

1. Ensure Outlook is open.
2. Press **alt+f** to open the File menu, then **t** to open the options.
3. Press **control+tab** twice to move to the Calendar options.
4. Press **tab** to move through the work time options.
5. Press **tab** to move to the default reminder option and select when to be reminded before new meetings.
6. Press **tab** to move to the "Enable an alternate calendar. Enable if needed.
7. Press **tab** to move to the Time Zones. Add any which may be relevant.
8. Press **tab** to move through the remaining options, then press **enter** to accept any changes.
9. Press **control+2** to open the calendar view and navigate through the calendar. Note any changes made in the options, then close Outlook.

9.4 People, Task and Search Options

The People category contains options for contacts. Options include the default display of names and identifying duplicates on creation.

There are several visual options such as displaying contact photographs, or online status. Displaying online status is only available when using an Exchange server.

Task options set whether reminders are set for tasks with due dates. Default reminder time and other default actions can be set.

Search options affect how the search features work. Indexing sets what information is returned when searching from File Explorer.

The default folder, and which folders to include when searching within Outlook can be set. Options which can make searching faster are available. Visual options include the colour to highlight the search term in returned results.

Press **control+tab** to move to the People options from the calendar options. From People, press **control+tab** to move to the Task options, and again to move to Search options. Let's explore People, Task and Search options now:

Activity: People, Task and Search options

1. With Outlook open, press **alt+f** then **t** to open the Outlook options.

2. Press **control+tab** three times to move to the People options.
3. Press **tab** to move through the options until the focus is back on the "People" category.
4. Press **control+tab** to move to the "Tasks" category.
5. Press **tab** to move to the option to set reminders on tasks with due dates. Then, **tab** to the default reminder time for those tasks.
6. Press **tab** to move through the options to the working hours per day and per week.
7. Press **control+tab** to move to the Search options.
8. Press **tab** to move to the option to "include results only from", and then use the **arrow keys** to explore the options.
9. Press **tab** to move through the rest of the options, then press **enter** to close the options. Close Outlook.

9.5 Language and Ease of Access Options

Languages can be setup in the Language Options category. Adding languages provides features such as choice of language when spell checking.

The first option in languages is the Choose editing languages list. From this list, press **alt+d** to make a language the default language, and press **alt+r** to remove a language. To add a new language, press **tab** to the "Add additional editing languages" drop-down. Next, select a language, and press **alt+a**.

The language priority order can also be set for display, and for help. In each case, **tab** to the list and select the desired language to move. Next, press **tab** again to the up and down arrows. Finally, press the **spacebar** to activate the selected arrow to move the language in the list.

Outlook's Ease of Access options change accessibility features. These features may improve the experience for some users.

Provide feedback with sound adds sound effects to various actions. These work across the Microsoft Office programs. The sound scheme is also selectable.

When using the **arrow keys** to change messages, conversations expand by default. There is an option to disable this behaviour.

Show read aloud provides a button in the ribbon to read the current message aloud. When reading, Outlook uses the Windows OneCore synthesizer. This replicates functionality already provided by NVDA. Unchecking the option frees up one item in the ribbon.

Adjust stationary, font size or colour to make text easier to see. To change the background colour, choose an appropriate theme.

Automatically generate alt text adds a description to images inserted into messages.

Let's explore the language and ease of access settings now:

Activity: Language and Ease of Access options

1. Open Outlook's options.
2. Press **control+tab** until the focus is on "Language".
3. Press **tab** to the first editing language. Use the **arrow keys** to explore any other installed languages.
4. Press **tab** to move through the other language options, then press **control+tab** to move to the "Ease of Access" page.
5. Press **tab** to move to the "Provide feedback with sound" option.
6. Press **tab** until the focus is on "Don't automatically expand conversations when using the keyboard to change messages".
7. Press **tab** to move to "Show read aloud".
8. Press **tab** until the focus is on "Automatically generate alt text for me".
9. Leave the dialog open to return to next activity.

9.6 Advanced Options

Advanced options contain settings which did not fit in the earlier pages.

Reading pane options set how and when the reading pane appears. From the mail list, press **control+tab** to move to the reading pane instead of pressing **enter** to open the message. The Reading pane is primarily designed to show the message visually without opening it. If not used, turning the reading pane off can make navigating more responsive.

Start Outlook in this folder allows the default starting folder to be selected. Use "Browse" to select the folder. If the first, level 0 item is chosen, the Outlook Today window will be shown when Outlook starts.

AutoArchive settings control how often auto archive runs. What data gets archived and how long to keep items is also configurable.

There are options for how and when reminders are shown.

Some items are also available elsewhere. "Export", for instance, is the same as the option available from the "Open and Export" tab in the file menu.

Options for RSS feeds control how to synchronise RSS feeds. Send / receive options control how often to check mail.

International options provide additional settings for those using multiple languages. Advanced options contain other settings which did not fit elsewhere.

Let's explore Advanced options now:

Activity: Advanced options

1. Ensure Outlook's options are open from the previous activity.
2. Press **control+tab** to move to the "Advanced" page.
3. Press **tab** to move to the "Reading pane" button and press **enter** to open the Reading pane options.
4. Press **tab** to move through the options. When done, press **enter** to return to the Advanced options.
5. Press **tab** to move to the "Start Outlook in this folder" option. If desired, press **tab** once more and use the "Browse" button to select a new folder.
6. Press **tab** to the AutoArchive settings and press **enter** to open these.
7. Press **tab** to move through the options and **enter** to return to the Advanced options.
8. Press **tab** to move through the remainder of the Advanced options.
9. Press **enter** to save any changes and close the options, then close Outlook.

9.7 Customising the Ribbon

The next category in the options is "Customising the ribbon". This is also available from the ribbon itself. From the ribbon, open the context menu and choose "Customize the ribbon". This screen allows changing the layout of the ribbon. Add or remove shortcuts to features to make them easy to access or declutter the ribbon.

The first option is a drop-down list "Choose commands from". The selection here affects the items listed in the following "Available commands".

The "Customise the ribbon" drop-down is used to select the part of the ribbon which will be edited. The "Ribbon tree view" then shows all the commands currently in that part of the ribbon.

To add a command to the ribbon, first select it in "Available commands". Next, press **alt+a** to activate the "add" button. The command is added to the current folder in the ribbon tree view. To remove an item from the ribbon, select it in the ribbon tree view, then press **alt+r** to remove it.

The ribbon tree view contains checkboxes next to each of the main tabs (Home, Send/Receive, Folder, View, etc.). Press **spacebar** to toggle these checkboxes. When checked, that ribbon appears in the list of ribbons. When unchecked, that ribbon is hidden. NVDA can not currently read these checkboxes in the options.

To create new ribbon tabs, press **alt+w**. To create new groups within the current ribbon press **alt+n**. To rename the current group or tab press **alt+m**.

To reset the ribbon to its factory state press **alt+e**. It is possible to import or export a customised ribbon. This can make it easy to copy the ribbon setup to another computer.

Items cannot be added to the built-in groups, such as the font or paragraph groups of the home ribbon. Create new groups to add to the existing ribbons to add new items to.

The next activity involves customising the ribbon, then restoring it. The item used for the activity is the "Account settings". This brings up the dialog where account settings, as well as RSS feeds can be customised. Let's customise the ribbon now:

Activity: Customising the ribbon

1. Open Outlook, then press **alt+f** then **t** to open the options. Press **control+tab** until the customize ribbon category of the Outlook options is selected.
2. Press **alt+n** to press the "create new group" button, which will create a new group on the home ribbon.
3. Press **alt+m** to rename the group, type "Account" and press **enter**.
4. Press **alt+c** to move the focus to "Choose commands from". Choose the "Popular commands" and press **tab** to move to the "available commands".
5. Press **down arrow** to find the "Account settings" and press **alt+a** to add it to the custom ribbon.
6. Press **tab** to the "OK" button and press **enter**.
7. Press **alt+h** to open the Home ribbon and press **control+right arrow** to move to the new group. Note that the quick access key for the new icon is **alt+h**, then **y**, then **1**.
8. Open the options again, navigate to the customize ribbon category.
9. Navigate to the "Ribbon tree view", locate the "Account" group, and press **alt+r** to remove it.

9.8 Customising the Quick Access Toolbar

The quick access toolbar is the leftmost part of the title bar. Access commands on the toolbar with shortcut keys. Press **alt+1** for the first item, **alt+2** for the second item, and so on.

The "quick access toolbar" category of the options is next after the "customize ribbon". The two pages look almost identical.

The "Choose commands from" dropdown defines what "available commands" are listed. To add a command to the quick access toolbar, select it in the available commands, and press **alt+a**.

To re-order items, first select an item in the "Customize quick access toolbar list". Next, press **tab** to the "Move up" or "Move down" button. Press **spacebar** to activate the button and move the selected command. To activate the first command in the list, press **alt+1**. To activate the second command, press **alt+2**, and so on.

The final two sections of the Options are "Add-ins" and the Trust Center.

Add-ins are third-party tools which work with Microsoft Office. Grammar checking services such as Grammarly often come with add-ins. The functions vary, but may include checking writing in emails, for instance. The 3rd party add-ins available will be different on each computer. As a result, they are not covered here.

The Trust Center allows changing the security settings for Outlook. For instance, images in HTML messages can be blocked. There have been instances where exploits have allowed images to contain malicious code. Microsoft recommend not changing those options.

Let's explore the quick access toolbar options now:

Activity: Customising the quick access toolbar

1. Open the "Quick Access Toolbar" category from the Outlook Options.
2. Press **tab** to the "Choose commands from" combo box and select "Popular Commands".
3. Press **tab** and then **down arrow** to select "New Email", then press **alt+a** to add Page Setup to the Quick Access Toolbar.
4. Press **tab** until the focus is on the "Customise Quick Access Toolbar List".
5. Use the **up** and **down arrow** keys to move through this list and note how many items there are. If "New Email" is listed, note which number in the list it is.
6. Press **enter** to activate the "OK" button and close the options.
7. Press **alt+3** (change the number as needed) to create a blank email. Move through the fields with **tab** before pressing **escape** to close it.
8. Open the Quick Access Toolbar settings and find the "New Email" item in the "Quick Access Toolbar List". Press **alt+r** to remove it (unless you wish to keep it in your Quick Access Toolbar).
9. Press **control+tab** to move to the "Add-ins" options, and **tab** to move through the options. Repeat to investigate the "Trust Center" options, then close Outlook.

9.9 Outlook Options Review

This section covered options available to configure Outlook's settings.

Some of the key concepts included:

- General Options
- Mail
- Calendar
- People
- Search
- Language
- Ease of Access
- Advanced Options

- Customising the ribbon
- Customising the Quick Access Toolbar
- Add-ins and Trust Center

Activity: Outlook options review

1. Create an email to yourself and give it a suitable subject.
 2. In the body of the message, list each of the categories in Outlook's Options dialog (General, Mail, Calendar, etc.).
 3. Next to each category listed, explain one setting you have changed in that category. If none were changed, note that down.
 4. Send the message, and when it arrives, assign it a category of your choice.
 5. Create a calendar entry for one month from today. Set aside time to go through Outlook's settings and check whether to change any after a month of use.
 6. In Outlook's Notes section, create a new note. Explain what the Quick Access toolbar is and how to access items on it.
 7. Edit the Quick Access toolbar to add a shortcut to a feature in Outlook that you might use.
 8. Create a to-do entry to follow up in a week and see how the new Quick Access Toolbar shortcut is working out.
 9. Close Outlook.
-

10 Advanced Topics

The aim of this section is to cover some advanced topics which were not included elsewhere. Some of the features in this topic are complex to setup, such as RSS or email accounts. Others are simpler, but less commonly used, such as formatting or working offline.

Goals for this section:

- RSS Feeds
- Text formatting
- Inserting
- Working Offline
- Adding accounts
- Feedback and support
- Resending and recalling

10.1 RSS Feeds

RSS stands for "Really Simple Syndication". Essentially, it is a way of getting updates to web sites via email. The website itself needs to be setup to offer this. There is often a special link to copy into an RSS reader. Some browsers can do this themselves. Outlook can also be

used as an RSS reader. Many popular news sites offer RSS feeds so that news can be received essentially like email. If there is not an RSS link on a page, sometimes adding "/rss" or "/feed" to a URL will locate it.

The page for the NV Access blog, In-Process is: <https://www.nvaccess.org/category/in-process/>

The RSS feed is available at: <https://www.nvaccess.org/category/in-process/feed/>

Google News can be found at: <https://news.google.com/>

And the Google News RSS feed is at: <https://news.google.com/rss>

While there is an RSS folder setup in Outlook, adding RSS feeds to it is a little tricky.

Press **alt+f** to open the File menu, then **tab** to **account settings**. Press **enter** to open the sub-menu and **enter** again to open **account settings**.

From the dialog which opens, press **control+tab** twice to get to "RSS feeds".

To add a new feed, press **alt+n**, then paste or type the URL of the feed and press **enter**. The RSS feed options dialog opens, with the focus in the feed name. Most feeds come pre-configured, so nothing needs to be changed on this page. To setup the feed as suggested, press **enter**. Alternatively, press **tab** to move through the options before pressing **enter**. Press **alt+c** to close the Account settings dialog.

Once a feed is added, the existing articles are added to a folder under the RSS folder. New articles are automatically placed in the folder as they are added. RSS feeds are checked at the same time as new mail.

Many RSS feeds simply show the headline and a little information about the article. The last item in many pieces is a "view article" link, which opens the article in the browser. Press **alt+h**, then **v** to open the full article in the browser without needing to locate this link. Alternatively, press **alt+h**, then **b**, then **o** to download the article as a HTML attachment to this message.

Let's add an RSS feed now:

Activity: RSS Feeds

1. Open the browser and go to the In-Process page:
<https://www.nvaccess.org/category/in-process/>
2. Read through the page. Then edit the URL to add "feed/" to the end and copy the URL.
3. Open Outlook, then press **alt+f**, then **tab** to the "Account settings" button.
4. Press **enter** to open the menu and again to activate the Account settings option.

5. Press **control+tab** twice to move to the "RSS Feeds" page.
6. Press **alt+n** to add a new RSS feed. Press **control+v** to paste the URL copied in step 2.
7. Press **enter** to add the URL and **enter** again to accept the default options. Press **alt+c** to close the dialog.
8. Press **control+y** and navigate to the "In-Process - NV Access" folder. This folder should be under the RSS folder.
9. Open the newest item, read it, then press **alt+h**, then **v** to view the article in the browser.

Bonus Activity:

Add another RSS feed for Google News. Read through several items and open at least one to read the full article in the browser. Close everything.

10.2 Text Formatting

Text in messages can be formatted to change the font, appearance, colour or alignment. The commands are the same as to change text formatting in WordPad or Word. As with any text formatting, it is important to consider accessibility for readers. Some users prefer reading emails in "plain text" which allows them to format all text as they prefer. In Outlook's "Mail" settings, there is an option to "Compose messages in this format". This option is set to "HTML" by default. HTML is the formatting used by web pages, so allows a lot of formatting options. Plain text is the other main format used for email. Composing plain text emails is like writing in Notepad - no formatting can be used at all. Any device which can access emails can read plain text email. There are very few devices available now which cannot also read mail in HTML.

Text formatting only works in the body of items. The subject, To, CC and other fields are simple text. Notes are also only plain text.

Press **control+alt+1** to set the current line as heading level 1. Press **control+alt+2** to set heading 2. Press **control+shift+n** to return text to normal style.

Press **control+b** to make text bold. Press **control+u** to make text underlined. Press **control+i** to make text italic.

Text alignment can be set for each paragraph. Press **control+l** to set left alignment (the default). Press **control+e** to centre text, and press **control+r** to right align text. Press **control+j** to justify text, which aligns it to both left and right margins.

Press **control+d** to open the font dialog, which allows adjusting most font attributes.

Press **control+shift+s** to open the Apply Styles toolbar, which works the same as in Word.

Lists can be included in emails. To start a numbered list, type "1." or "1)", then press **spacebar**. Letters and several other following characters can also be used. To start a bulleted list, type "*" or a hyphen "-" and press **spacebar**. Press **control+shift+l** to toggle a bulleted list on or off.

In Windows 10, Emoji can be added from the emoji picker. Press **windows+.** or **windows+;** to open the emoji picker. Type the name or use the arrows to select an emoji, then press **enter** to insert. When done, press **escape** to close the emoji window.

Let's write an email with text formatting now:

Activity: Text Formatting

1. Create an email addressed to yourself, with the subject "Text formatting".
2. Select the word formatting in the subject and press **control+b** to make it bold.
3. Have NVDA report formatting and note that text is not bold.
4. Move to the body and press **control+alt+1** to add a heading level 1.
5. Type "My report" and press **enter**.
6. Write a paragraph of text, including words which are italic and underlined.
7. Write a paragraph which is centred, then send the message to yourself.
8. Read the message, and have NVDA report formatting in several places.
9. Close Outlook.

Bonus Activity:

Create a new email. If you have a friend or family member to write to, address it to them, otherwise send it to yourself. In the body, include examples of a numbered list, colour, and strikethrough (look in the font dialog). When done, proofread and send the message.

10.3 Inserting

Body text can be formatted like in Word. Tables, images and other items can be inserted, also like in Word. Press **alt+n** to open the Insert ribbon. From there, press **t** to insert a table. Use the **arrow keys** to select the size, then press **enter** to insert the table.

When reading or editing a table, press **control+alt+arrows** to move between cells. Most other table functions work the same as for Microsoft Word.

To insert a picture, press **alt+n**, then **p** to insert a local picture or **f** to insert an online picture. Once a picture has been inserted, open the context menu and press **a** to add "alt text".

One picture which can be very useful to add to email can be a screenshot. This is often used to include a picture of a misbehaving program. To take a screenshot of the current screen, press **print screen**. The image is copied to the clipboard. Paste the image into an email

with **control+v**. Note that a screenshot is not an accessible way of sharing information such as an error message. To copy the text of an error message to the clipboard, press **control+c**.

Most of the other items on the Insert ribbon also work the same as in Word. Refer to the "Microsoft Word for NVDA" training module for more on these features.

Activity: Inserting

1. Create an email to yourself with the subject "Inserting".
2. In the body, Type a heading level 1, which reads "A table".
3. Press **alt+n** then **t** to insert a table.
4. Press the **right arrow** once, then press the **down arrow** once to insert a 2 x 2 table.
5. Use **control+alt+arrows** to move around the table. In the cells, type "top", "bottom", "left" and "right" as appropriate. The first cell is "top left", then "top right" in the cell next to it, etc.
6. Send the email.
7. Check for new mail and open the message when it is received.
8. Read through the message using Say All **NVDA+down arrow** (laptop: **NVDA+a**), then navigate to and around the table.
9. Close Outlook.

Bonus Activity:

Create a new email to yourself with a suitable subject. Insert a heading 1 "Dialog message". Open Notepad, type the word "test", then press **alt+f4**. Press **control+c** to copy the message asking whether to save the changes. Paste the text into the email. Add a screenshot and give it suitable alt text. Send the message.

10.4 Working Offline

Working offline is a way of using Outlook without an Internet Connection. Working offline can avoid distraction. Outlook will not download new incoming mail, but Outlook can still be used. Emails can be written and when "sent", go into the Outbox, to send when Outlook is next online.

Outlook automatically works offline if no internet connection is available. It is possible to manually set Outlook to work offline from the Send / Receive ribbon. Press **alt+s**, then **w**, to toggle Working Offline.

Activity: Working Offline

1. Open Outlook.

2. Press **alt+s**, then **w** to work offline.
3. Create a message to yourself, with the subject Working Offline. In the body, write the steps to work offline.
4. Send the message and note that it seems to send normally.
5. Navigate to the Outbox and note that the message is waiting to be sent.
6. Press **alt+s** then **w** to toggle work offline.
7. Press **f9** to send and receive messages.
8. Once sending and receiving messages is complete, close Outlook.

Bonus Activity:

Consider when working offline might be beneficial for you. Some people like to have a couple of hours early in the morning to concentrate on a task. Others find that later in the day is useful. Think of a time you would like to work distraction free. If desired, set a recurring calendar entry for that time either each day, or each weekday.

10.5 Email Accounts

In most organisations, email accounts might be setup by the IT department. If using Outlook on a personal computer, it may be necessary to setup email accounts manually.

Email accounts used with Outlook are separate from the "Office Account". The Office account logs in to Microsoft Office and ensures that the program is registered.

Most Internet Service Providers (ISPs) supply at least one email address. There are many organisations who provide free email addresses. Microsoft have Outlook Online (formerly Hotmail). Google provides Gmail and Yahoo, mail.com and others are also available.

An email account which is not tied to an ISP can be kept when changing internet providers.

To setup an email account in Outlook is done from the "Info" tab of the File Menu. Press **alt+f** then **i** to access the Info tab. From here, press **s** to access account settings for the current account, or press **d** to add a new account. It is possible to have more than one account setup at once. The folders for additional accounts are listed in the folder list. The level 0 items in the list are the top level of each account.

When "Add account" is chosen, Outlook first asks for the email address to use. The password used to access the account will also be needed. Some services offer "Two Factor Authentication" or 2FA. In services, such as Gmail, when this is enabled, a password other than the regular one may be needed. Two-factor-authentication is an extra layer of security available on some services. Two factor authentication takes a username and password is often entered first, like other accounts. Once these are correctly entered, an extra piece of identification is required. This is often a code sent via text message to a phone. A code generated by an app on another device or another method can also be used.

Depending on the type of account, other information may be needed. This information can include server addresses and port numbers. If needed, search on your email provider's website or contact them to find out the settings needed.

Activity: Email accounts

1. For one email address you access, find out the Outlook settings required to setup the account. If you cannot find these settings, search for the settings for a "Gmail" account.
2. Open Outlook.
3. Create an email to yourself, with the subject "Outlook email address settings".
4. In the body of the message, include the steps to add a new account in Outlook.
5. Include a link to the page found with the information to setup the account.
6. Send the email to yourself.
7. Close Outlook.

Bonus Activity:

On your personal computer, setup a second email account in Outlook. If needed, create a Gmail, Outlook.com or other free email account first. Once the account is setup, use the go to folder dialog to move between folders in each account.

10.6 Feedback

Feedback is a way to contact Microsoft about problems or suggestions. Feedback is an option in the File menu in Outlook. There is also a link to the Outlook blog to stay up to date with new features and information.

Press **alt+f** then **k** to open the Feedback section of the File menu. From there, press **k** to activate the "Suggest a feature" button. This opens the browser to the <https://outlook.uservoice.com/> site. Type a query to search for existing feedback to "upvote" or add new feedback. Upvoting tells Microsoft that there are many users with the same issue. Upvoting is more efficient than creating a second issue with the same information.

The "Stay current with Outlook news" option is available by pressing **alt+f**, then **k**, then **b**. This option opens the Office 365 Outlook blog to follow the latest news on Outlook.

Activity: Feedback

1. Open Outlook.
2. Press **alt+f** then **k** to open the Feedback pane of the File menu.
3. Press **b** and read the blog post which opens in the browser.
4. Return to Outlook.

5. Press **alt+f**, then **k**, then **k** again to activate "Suggest a feature".
6. Read through the most popular options listed on the page.
7. Close the browser.
8. Close Outlook.

Bonus Activity:

Think about how to find an RSS feed for the Microsoft Office Blog. Add the RSS feed to the RSS Feeds list in Outlook.

10.7 Getting Help

Outlook's help ribbon has various ways for getting assistance.

Press **alt+e** to open the Help ribbon.

From here, press **h** to open the Help task pane. This opens a task pane with a search edit and help categories. The focus starts in the edit field. Type text to search for and press **enter**. Alternatively, press **tab** to move through the categories and **enter** to open a category.

The next form of help is to "Contact Support". Press **alt+e** then **c** to select "Contact support". A task pane opens with the focus in an edit field. Type a query, then press **tab** to "Get help" and press **enter** to search for information. Press **tab** to move through the results and **enter** to load a relevant article. If none of the articles resolve the query, the last option is "Talk to an agent". Press **enter** on this option to start a live chat with a Microsoft support person who can try to help with your query. Note that they may want to connect remotely to your computer to help you.

Press **alt+e**, then **s**, then **1** to "Suggest a feature". This works the same as described in the previous topic.

Press **alt+e**, then **s**, then **2** to "Show training". This option opens a task pane of videos which walk through various aspects of Outlook.

Press **alt+e**, then **w** to open "What's new". What's new is a task pane with information on new features and updates to Outlook.

Press **alt+e**, then **l** to open the web page for the Support Tool. This provides a download link for an Office recovery tool. This tool can diagnose and fix a range of issues with Microsoft Office. If no fix can be found, the tool can open an online chat with a support agent, as described previously.

During an online chat with a support agent, they may need to collect your Office logs. Press **alt+e** then **g** to "Get Diagnostics". This tool explains that it needs permission to collect

information. Once read, press **tab** to move to the "Accept" button and press **enter**. The diagnostic tool then collects information about the computer. The tool provides a link to the generated file. Select and copy the link to paste in the chat window for the support agent when asked.

Activity: Getting Help

1. Open Outlook.
2. Press **alt+e**, then **h** to open the Help pane.
3. Press **tab** to "Get Started" and press **enter**.
4. Press **tab** to "Create and Send email" and press **enter**.
5. Read the steps listed. Note that they include the actions to perform, but often do not list specific keys to press.
6. Press **alt+e**, then **w** to open "What's new".
7. Press **tab** to "Learn more" and press **enter** to read more information about the latest features.
8. Close Outlook.

Bonus Activity:

Think of a feature which does not work as well as you would like, or a new feature you would like to see added. Open Outlook's "Suggest a feature" and search to see if anyone has suggested this before. If so, upvote it. If it has not been suggested, use the "Post a new idea" button to add it. If unsure what to suggest, perhaps adding shortcut keys to help topics might be an idea.

10.8 Resending and Recalling

When **alt+s** is pressed to send a message, it is placed in the Outbox. If there is an internet connection, the message goes to the outgoing mail server. The outgoing mail server forwards the message on to its final destination. Once sent, the message is moved from the Outbox to the Sent Items folder. Outlook has a "Recall" function. Recall is designed to allow a sent message to be cancelled before it is read by the recipient. This feature mostly works in corporate environments using an Exchange server. Even then, there is no guarantee that a recipient will not see it. Messages sent outside an organisation generally cannot be cancelled. The recipient will receive an email saying that the sender wishes to recall it. The message itself will also still be delivered.

In most cases, the best course of action is to rewrite the message to fix any errors. Send the updated message with a note to request the previous version be ignored. To recall a message sent using an exchange server, first locate the message in the Sent Items folder. Press **enter** to open the email. Press **alt+f** to open the file menu, then **i** to open the "Info" tab and **r** for "Message recall and resend". There are two options: "Recall this message" and "Resend this message". Recall tries to delete unread copies of the message before they are

read. "Resend this message" does not recall the message, but opens it ready to edit and send again. All of the recipients, attachments and contents are the same, to enable a minor change to be made quickly.

Choosing Recall displays a dialog. The dialog confirms whether to delete or replace unread copies of the message. Replacing unread copies works like recalling and resending combined.

Let's use recall and resend now:

Activity: Resending and recalling

1. Create a new message, addressed to yourself with the subject "A test message".
2. In the body of the message, write "This is a test message to recall" and send it.
3. Open the message from the sent items folder.
4. Press **alt+f**, then **i** then **r** to open the "Message resend and recall".
5. Choose "Resend this message".
6. Move through the fields to confirm the message and recipient are the same as previously.
7. Edit the body to read "This is a test message to resend", then send it.
8. Read through both received messages.
9. Close Outlook.

Bonus Activity:

Open the message which was sent this activity. Recall the message. Check for new mail and read the recall message when it arrives.

10.9 Advanced Topics Review

This section covered some advanced features in Outlook.

Some of the key concepts included:

- RSS Feeds (**alt+f, i, s, enter** to add)
- Text formatting (Heading 1: **control+alt+1**, Bold: **control+b**)
- Inserting tables (**alt+n**, then **t**)
- Inserting picture (Local picture: **alt+n**, then **p**, Online: **alt+n**, then **f**)
- Working offline (**alt+s, w**)
- Adding email accounts (**alt+f, i, d**)
- Feedback (**alt+f, k**, then:)
 - Suggest a feature (**k**)
 - Outlook blog (**b**)
- Getting help (**alt+e** then:)

- Help (**h**)
- Contact support (**c**)
- Suggest a feature (**s, 1**)
- Show Training (**s, 2**)
- What's New (**w**)
- Support Tool (**l**)
- Diagnostics (**g**)

Activity: Advanced Topics Review

1. Open Outlook and set it to work offline.
2. Create a note and record the information needed to setup a new email account in Outlook.
3. Create an email to yourself, with the subject "Where to get help".
4. In the body of the message, under a suitable heading, insert a two column table. In the left column, write the names of each of the items on the Help Ribbon. In the right column, describe each in a sentence.
5. Send the message and confirm it is in the Outbox.
6. Turn "Working Offline" off and send the message in the Outbox.
7. Use Google to find a new RSS feed of interest. Subscribe to it, then view one of its articles in the browser.
8. Write a journal entry to record a "task". Note how you feel now that you have completed the Microsoft Outlook for NVDA training module.
9. Close Outlook.

**This is the end of the Microsoft Outlook
for NVDA training module.**