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1 WELCOME

As an ISI student, you have access to:

- A physical machine in your classroom
- A virtual machine that will allow you to work in your classroom or at home. You will be required to work on one or the other according to the needs of the course and your teacher's instructions.
- A personal directory on the network
- The school's intranet (ISCO2)
- An email address
- Microsoft Imagine, a software download program from Microsoft.

1.1 Your user account

You have a user account (username) that is configured as follows:

- First letter of first name(s)
- Followed by the letters of the last name, up to a total of 8 characters for the entire username.
- Examples: Jean-Sébastien Trudeau = jstrudea; Jean Trudeau = jtrudeau

1.2 Connecting to the physical machine

1.2.1 Initial connection and password creation

When you first log in, you will need to change your password. To do this, once in Windows:

1. Press the **CTRL+ALT+DELETE** keys simultaneously.
2. The default password is: 123456
3. The domain name: ISIMTL
4. Choose a good password with a minimum of 6 characters (not the name of your cat or child, please!). Ideally, combine alphanumeric characters.

1.2.2 Sessions: opening, closing, etc.

To open a session by logging in with your user account (username):

- Simultaneously press **CTRL+ALT+DELETE** and enter your password.

To lock your session:

So that no one else can access your account:

- Click the Windows Start icon () and select the **Lock** option from the "Shut Down" menu.

- Or simultaneously press the **Windows** **and L** keys**.**

To exit your account without shutting down the computer:

- Press the Windows key (), or press the Windows Start icon () and select the **Log Off** option in the "Shut Down" menu**.**

To restart the computer:

- Press the Windows key () or press the Windows Startup icon () and select the **Restart** option in the "Shut Down" menu.

To put the computer in sleep mode (your account stays open):

- Press the Windows key ( ) or press the Windows Startup icon ( ) and select the **Sleep** option in the "Shut Down" menu.

To shut down the computer:

- Press the Windows key ( ) or press the Windows Startup icon ( ) and select the **Shutdown** option in the "Shut Down" menu.

1.2.3 Connection problems

In case of problems when connecting, you must do some small verifications yourself. The technician is at your disposal, but avoid unnecessarily disturbing him/her!

Here are some small things to check:

- Check that the network cable (coloured cable) is properly connected.
- Check the keyboard language.
- Check if the Caps Lock key is pressed.
- Check that the numeric keyboard is activated (if your password contains numbers).
- Check your username, password and domain name. Be careful, if you make more than 3 errors, your account will be blocked and you will have to call upon the technician.

1.3 Connecting to the Windows 7 Virtual Machine (VM-Etu-Win7)

1.3.1 Connecting from your classroom

- Click on the icon of the client VMWareHorizonView Client that is found on your physical machine's desktop. .
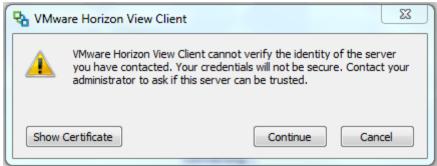
- Click on the cloud icon "view.isimtl.local" :
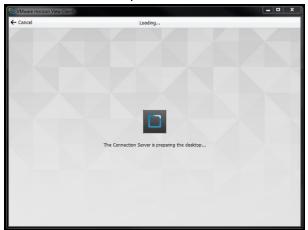
- If the following message appears, click on "Continue" :

- Then click on the "Vm-Etu-Win7" icon:
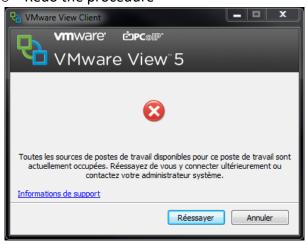
- This connection step can take a little while.

- In the authentication window, enter your **domain username and password**. Then, click on **Login.** This connection step can take a little while.

- Once you're connected to the virtual machine, the following control bar will appear at the top of your screen:

- If the following error message appears:
  - Click on Cancel
  - Wait 5 minutes for the virtual machine to be available
  - If this takes longer than 5 minutes, contact the network administrator
  - Redo the procedure

1.3.2 Connecting from home

- Follow the procedure found on Tableau ([see how to access Tableau](#)) at: \\Vmware\
  The file is called **ExternalViewProcedure.pdf**

1.3.3 Connecting a USB key to a virtual machine

- Select "Connect a USB Device" on your virtual machine's control bar:
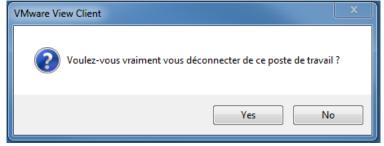
1.3.4 Signing out from a virtual machine

- Click on on your virtual machine's control bar:

- Click on the "Yes" button in the confirmation window:

- or Start Menu, then End Session, then Disconnect

1.4 Your directories

Once connected to your user account, you have access to several network drives:

1. **The U drive (username)**: This is your personal directory where you can store your documents. The maximum capacity of this space is 300 MB total.
2. **The T drive (Tableau)**: Tableau is for professors to transfer documents or information to students. You have read-only access. Your teacher will indicate the directory corresponding to your course.
3. **The X drive (Dropbox)**: Dropbox is where exercises, homework, assignments, exams, etc., are to be handed in.

To check the space left in your personal directory:

- Right click and select "Properties" from the menu

1.5 Accessing ISCO2 from school

To access the school's intranet (ISCO2), you must:

- Click on the ISCO2 icon found on your desktop
- Or press the Windows key (   ), then on the ISCO2 icon
- Or click on the Start button(   ), then on the ISCO2 icon

You have access to four menus:

Horaire	Consultation des notes	Factures / Paiements	Règle

- **Schedule** (Horaire): Allows you to consult the current month's schedule and the previous ones. You have access to the following month 3 working days before the beginning of the month.
- **Consultation of grades** (Consultation des notes): Allows you to consult your grades throughout the year for each course as well as for each evaluation. Also permits you to consult your absences. Note that the Institute's standards are indicated at the bottom of the screen and may be consulted at any time.
- **Bills / Payments** (Factures / Paiements)**:** Allows you to consult your payments status and to have access to your bills.
- **Rules** (Règle)**:** Allows you to consult the Institute's rules and standards.

1.6 Your email address

Click on the Microsoft Outlook 2007 icon. Your account will be created automatically with your username.

Ex: If your username is pdupont, your email account will be pdupont@isi-mtl.com

1.7 Installation of software and access to Microsoft Imagine

The school will provide the software you require and you are authorized to download open source software.

It is strictly forbidden to install external software or software for which the school does not have licenses. Sanctions will be imposed in the case of non-respect of this rule.

Each student has a Microsoft Imagine account, a free Microsoft download program.

Activate your account by clicking on the activation link from the email received in your inbox.

2 WINDOWS 7 OPERATING SYSTEM

2.1 Introduction

Windows is an operating system (OS).

- It is a program helped by several "sub-programs." The main function of this program or operating system is to make use of the totality of physical components that constitute your computer.
- Serves as the operation software for programs (e.g.: Word, Excel), manages internal functions (memory) and the processor, provides utilities for managing folders, files, and disks.
- Allows you to display multiple documents and run several programs at once (multi-tasking aspect).

2.2 Starting up and shutting down

Starting up Windows

- Automatically starts when you turn on the computer.
- Enter the password if applicable.
- Brings you to Office.

Shutting down Windows

- Shut down option from the Start menu. Allows you to leave Windows, to restart or to connect under another name (switch users).

2.3 Mouse manipulation

Use the mouse to:

- **Point**: move the mouse to move the pointer to an item.
- **Click**: point to an item, then click on the **<u>LEFT</u>** button to...
  - o Select an item with a simple click (selection = blue).
  - o Perform an action with a simple click on an item with a 3D appearance (buttons, start menu, applications on the taskbar).
- **Right-click**: point to an item, then click on the **<u>RIGHT</u>** button to…
  - o Activate the contextual menu of the object (file, program icon, diagnostic program, etc.). The menu is CONTEXTUAL to the object, which implies that the menu items are variable according to the object.
- **Double click**: point to an item, then click on the <u>LEFT</u> button two consecutive times, rapidly:
  - o Allows, among other things, to launch an application from its icon. As a general rule, the double click works on elements of the interface that are flat, that is, elements whose appearance is not in 3D.
- **Drag**: point to an item and press on the mouse button while you move the item.
  - o Allows for Drag and Drop type actions. We can, for example, select a file by clicking once with the left button while holding it down, it becomes blue, we slide it to the destination folder, we release and it's done.
- **Select objects:** point to and click on an object (it will become highlighted in blue)**:**
  - o With **SHIFT** for consecutive files. Click on the first one, then while holding down **SHIFT**, click on the last one.
  - o With **CTRL** for non-consecutive files. Hold down **CTRL** while clicking on the desired files.
  - o Invert the selection by applying the above methods to already selected items.

2.4 Windows

Title bar of a window

Module 3 - Intro au système d'exploitation Windows.doc [Mode de compatibilité] - Microsoft Word ...

- Contains the name of the window
- Highlighted bar (default) is active or has "focus", that is, keyboard shortcuts are context-sensitive to the application whose window is active.

Button for reducing and enlarging a window

- Minimize button: ▬ button. A minimized program is minimized in the taskbar (see 2.7 Taskbar), but continues to occupy memory space, ready to be maximized and used.
- Maximize button: ▢ button. To maximize so that the window occupies the entire screen (except for the taskbar, by default).

Restore and close window button
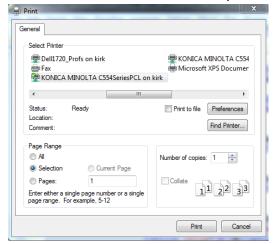
- Restore button: ⧉ button. Restores the window to the position and size it had before being maximized. It occupies at this moment only a portion of the screen.

- Close button: ✕ button in the top right corner of the screen. To close a window (the program by the same token) and unload the application from the memory. If the program processes data that has been modified without being saved, the program (Word application, for example) will prompt you to do so.

Toolbar

File   Edit   Search   View   Encoding   Language   Settings   Macro   Run   Plugins   Window   ?

- By pointing with the mouse on a menu bar or a cascading menu option.
- Under the **default title bar**. Usually contains the same menu choices (at the discretion of the application developer).
- Each menu has a list of commands and most commands indicate their keyboard shortcuts to the right of the command name (for example, **CTRL+O** for ***Open File***).
- A command ending with an arrowhead ▶ indicates the presence of a submenu.

- A command that ends with an ellipsis Imprimer... indicates a dialog box (see next section):

Print dialog box

Print

General

Select Printer

Dell1720_Profs on kirk   KONICA MINOLTA C554
Fax   Microsoft XPS Documen
KONICA MINOLTA C554SeriesPCL on kirk

Status: Ready   ☐ Print to file   [Preferences]
Location:
Comment: [Find Printer...]

Page Range

○ All
● Selection   ○ Current Page
○ Pages: [1]

Number of copies: [1]

☐ Collate

Enter either a single page number or a single page range. For example, 5-12

[Print]   [Cancel]

Toolbar icons

- Under the **menu bar** by default.
- Contains the buttons of the most frequently used commands (graphic shortcuts). All icon commands are located somewhere in the menus of the menu bar. The icon bar is customizable in most programs.
- You can leave the mouse pointer on a button for a few seconds to display its description.

Borders of the window

- Lines that frame a window that is <u>not maximized</u>. By positioning our cursor on one of these lines, it takes the form of a double arrow <-> and, by holding down the LEFT button of the mouse, we can manually resize the application window.

Status bar at the bottom of a window (according to each application)

- Can normally be enabled by the **View** menu and then **Status Bar**.
- Displays additional information such as the total or selected number of objects, a description of the command you are pointing to, free disk space, progress of a process or backup, and so on. Contextual to the application.

Scrollbar

- Band down (scroll horizontally) and right (scroll vertically).
- Select the bar (horizontal or vertical) with the cursor, hold down the left mouse button and move the mouse up and down to view the document.
- Indicates that you need to move the bar to view a hidden portion of the document or web page.

Arrow and scroll cursor
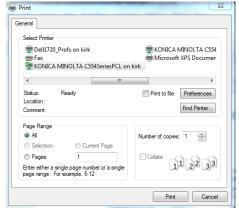
- Arrows on either side or at the top and bottom of the **scroll bar**.

- Repeatedly click on the arrow or hold it down for fast scrolling.

2.5 Dialog boxes

- Window displayed when a command requires more information
- Appears when a menu command is followed by an ellipsis
  (example: **Print…**).

- **Text box**: to enter text. If there is an arrow on the right side of the box, you can display a list of items to choose from.
- **Confirmation buttons** such as the **OK** or **Cancel** buttons. Allow the user to confirm or cancel the choices.
- **List Box**: Contains a list of items and sometimes a scroll bar. Click to select the desired item.
- **Check box**: active when a check mark appears. See **Drop Down Menu** above.
- **Option button**: for a set of mutually exclusive options, so only one choice. Active option when a black dot appears. See **Drop Down Menu** above.

2.6 Start menu

Access to the **Start** menu**:**

- Click the Start icon ( ) or Windows keyboard shortcut ( )

This menu is composed of 3 parts:

- on the left, on a white background, the list of most used programs and certain accessories (calculator, notepad);
- on the right, on a gray background, a list of links, including the one to the control panel that allows you to apply different settings on your computer, or the one to the different players on your computer (Computer);
- bottom left, a search box, which is used to find a file or program

Customizing the Start Menu

- **Start Menu** then right click on a menu item and choose from the options available
- Shortcut menu (right-click) on the **taskbar** (in an empty slot)> Property> Start Menu.
- Pin or unpin the Start menu

2.7 Taskbar

The taskbar includes:

1. The **Start** button

2. The Windows Explorer icon that allows access to files and folders and navigation of the computer tree.

3. The icons of programs that are open;

4. The notification area where the following can be found:
   a. Time and date: Hover over the time for a few seconds to display the date. Double-click on the time to go directly to the **Date / Time properties**

   b. Volume adjustment

   c. The network connection icon (wireless network – Wi-Fi or local network)

   d. The icon that displays if Windows has messages (often security updates)

e. The power icon if you have a laptop that indicates whether the battery is charging or the power cable is plugged in

f. The language icon

g. Some icons are hidden by default (connection to a USB key for example). To make them appear, click on the small arrow: .

Pin to the taskbar

1. Open a program (e.g., NotePad++)

2. Right-click on its icon in the taskbar

3. Select the option "Pin this program to the taskbar."

Customize the taskbar

Right-click on the taskbar and choose "Properties."

2.8 Windows Explorer

Windows Explorer provides access to files and folders along with navigation through the computer's tree structure.

2.8.1 Opening Explorer
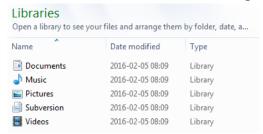
- Click on the folder icon in the taskbar
- Keyboard shortcut by **Windows** key + **E** (tip, remember **Windows** + **E**xplorer)

2.8.2 Browsing the files and folders system

On the left:

Structure of files, drives, folders (also called directories), network connections, etc.
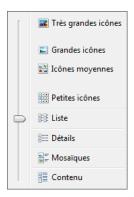
- The black triangle indicates the presence of subdirectories. The white triangle indicates that all subdirectories are displayed.
- This side panel has a series of shortcuts to go directly to a specific point on your computer:
  - **Desktop**
  - **Libraries** allow access to the following files:

  -
  - **Computer**: allows you to browse the system tree, documents, and other resources available on your Windows system. This is where you will have access to:
    - Your home directory (username)
    - Tableau
    - Dropbox for the deposit of homework and exams
    - Your USB key when it is connected to your computer
  - **Control Panel** allows access to your computer's configuration settings
    (see Control Panel)
  - **Recycle Bin** which manages <u>deleted</u> files and folders. As soon as an item is deleted, it moves to the trash. If you want to recover it, just double-click on the trash, locate the item and select it by right-clicking, then choose **Restore**.
    - To empty the trash, right-click and choose **Empty Recycle Bin**

On the right:

The names of the files and folders (directories) stored in the item selected on the left are displayed. You can choose the layout of your file display using the button at the top right of the window :

At the top:

- The address bar indicates where you are on your computer, that is, the path in the tree to reach the current folder:
- The two arrows to the left of the address bar allow you to go backwards when navigating in the tree:
- The search bar that allows you to search for a file or folder.

2.8.3 Creating files

- By clicking with the right button in a white space of the Explorer positioned in the directory where you want to store the file / folder, select New command. Then choose **Folder**, name it and type "Enter".
  - **• Keyboard shortcut: CTRL+SHIFT+N**

2.8.4 Deleting files and folders

- **Drag and drop :** by dragging the item to the **Trash**.
- **With the Delete option** in the context menu (right-click) of the file or folder
- To recover an erased file, select the file in the **Recycle Bin**, then choose the **Restore** command.
- **SHIFT+DELETE** deletes the documents <u>permanently</u> (do not go to the Recycle Bin). Be CAREFUL with this keyboard shortcut

2.8.5 Moving files and folders

- **Drag and drop**: by dragging (by default between 2 directories of the same hard disk)
- **Right-click** to open the context menu, then **Cut**, and then paste it into its destination location by right-clicking to open the context menu and selecting the Paste option.
- **With keyboard shortcuts**: Cut (**CTRL+X**) the file / folder from its <u>source</u> location and pasting it (**CTRL+V**) into its <u>destination</u> location

2.8.6 Copying files and folders

- **Drag and drop :** by dragging with **CTRL+click** (default between 2 directories of the same hard disk
- **Right-click** to open the contextual menu, then the option **Copy**, then pasting it in its <u>destination</u> location with **right-click** to open the contextual menu then option **Paste**
- **With keyboard shortcuts**: Copy (**CTRL+C**) the file / folder from its source location and paste it (**CTRL+V**) into its <u>destination</u> location.

2.8.7 Renaming a file or folder

- Select a folder, then click once on the folder name or press the F2 key on your keyboard or right-click to open the context menu, then the **Rename** option.
- Rename it and type "Enter."

2.8.8 Folder and file search

Research tools:

- **Start** menu search box.
- Search box at the top right within a folder in Windows Explorer

Finding a document

- Full or partial name (the ***** sign replaces several characters, the **?** only replaces one).

Program search

- Search by full or partial name.
- Application type file or program (*.exe).

Finding a computer

- Search by full or partial name.
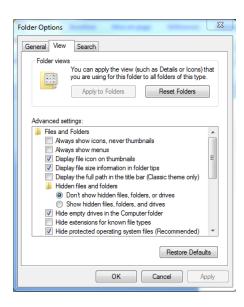
Search by type /content

- Examples of types: documents, applications (programs), shortcuts, bitmap images

2.8.9 Displaying file extensions

If you do not see your file extensions, it is because they are hidden by default in Windows 7. To display them, proceed as follows:

1. Open the Start menu and type "**Folder options**" in the search box, or click Control Panel, then on Appearance and Personalization, and then on Folder Options.

2. Select "View" and **uncheck the option "Hide extensions for known file types."**

2.8.10   Viewing hidden files, folders and drives

1. To open Folder Options, click on the Start button, then on Control Panel, on Appearance and Personalization and then on **Folder options**.

2. Click on the View tab.

3. Under Advanced Setting, **select option "Show hidden files, folders and drives"**, then click OK.

2.8.11 "Open" commands and "Open with", associating a file to a program

"Open" command

- Right-click on an icon, file or document, then choose "Open" to open it. A document will open in the program assigned to it by default.

For example, a document with extension .docx will open in Word by default if this program is installed on the computer.

"Open with" command

- Right-clicking on a document enables you to select the program in which you want to open the document. Multiple options are displayed based on the file's extension. For example, image files with .jpg extensions can be opened with any editing or image display program (Windows Paint, Windows Preview, Adobe Photoshop, etc.).
- Select the program of your choice.

Associating a default program to a file type

To associate a default program to a specific file type:

- Right-click on a file.
- Select "Open with". If the desired program does not appear on the list:
  - click on "Choose default program"
  - click on "Browse" and locate the program, then click on the .exe file.
  - the little box located below the list can be ticked to associate the file extension to the selected program.

2.8.12　Compressing and decompressing

Compression software allows you to compress documents and files into one compressed file, taking up less disc space.

To compress a file or document in Windows:

- Right-click and choose "Send to" "Compressed or zipped file".

You can also download archiving/compression software (such as 7-Zip which is open-source).

To decompress or expand a file:

- Right-click and select "Extract All"
- Choose the location where you want to save the expanded files by clicking on the "Browse" button.
- Click on "Extract".

2.8.13   Creating shortcuts

Shortcuts are thumbnails, i.e. a graphic representation of frequently used programs, files or documents.

Shortcuts are distinguished by the small, turning arrow located in the bottom left corner of the thumbnail.

It is, in fact a link, a 1 kilobyte file that directs the system to the actual program or file. It is not a copy of the program or file. Deleting it will have no impact on the program or its functioning.

Shortcuts can be placed in various locations (desktop, Start menu root folder, Start menu programs).

To create shortcuts :

1. Contextual menu. Right-click on the file for which you want to create a shortcut and select **Create a shortcut**.

1. **Cut** the created shortcut and go to its desired location (desktop, directory, Start menu, etc.).

2. Right-click an empty space and select **Paste** shortcut.

To delete a shortcut:

1. Contextual menu. Right-click the shortcut thumbnail and select **Delete**.

2.8.14   Item properties

The properties of all items (programs, files, documents, etc.) are accessible on the **Contextual** menu. Right-click the item to pull it up, then select **Properties**.

Properties will vary depending on the item selected. This function enables us to see the size, date and time (when first created, last modified, and last accessed), and attributes of a file or folder.

- Attributes :
  - Read-only (document cannot be modified)
  - Archive (indicates whether the document has been modified or not)
  - Hidden file (hidden file or directory unless the Display hidden files option has been specified)
  - System (Windows system file or document). It is NOT recommended to move, modify or delete system items, otherwise Windows may not start again).

2.9 Customization and configuration of the operating system

Use the **Control Panel** to change settings in Windows. These settings control the appearance of Windows and almost all aspects of its operation. Settings enable you to configure Windows according to your needs and specifications. The Control Panel is accessible by following one of these two options:

1. **Start** menu, click on **Control Panel**.
2. **Windows Explorer**, then click on **Control Panel**.

The Control Panel is composed of different categories:

System and Security
Review your computer's status
Back up your computer
Find and fix problems

Network and Internet
View network status and tasks
Choose homegroup and sharing options

Hardware and Sound
View devices and printers
Add a device
Connect to a projector
Adjust commonly used mobility settings

Programs
Uninstall a program
Get programs

User Accounts
Change account type

Appearance and Personalization
Change the theme
Change desktop background
Adjust screen resolution

Clock, Language, and Region
Change keyboards or other input methods
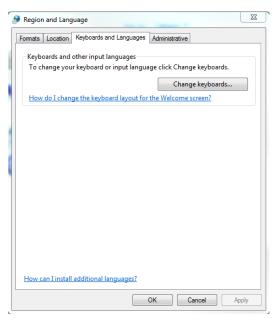
Ease of Access
Let Windows suggest settings
Optimize visual display

The following is a non-exhaustive list of categories:

Clock, language and region

- **Date and time:** to configure the time on the system, the time zone and adjustment for daylight savings time. The date can also be modified through this interface.
- **Region and language:**
  - Date and time formats, currency symbols, numbers, etc. (e.g.: in Canada, our dollar sign is positioned after the amount whereas in the USA, the dollar sign is positioned to the left of the amount)
  - **Change keyboards or input methods** allows you to change keyboard languages.
    - To configure the keyboard for FR French (Canada):

- ▪ Click on **Change keyboards**
- ▪ Choose from the drop-down menu: French (Canada).

- ▪ If the language you are looking for is not listed:
  - ● Click "Add"
  - ● Click on the + next to "French", then on the + for the Keyboard option and select Canadian French
  - ● Click "Apply"
  - ● Select this option in the drop-down menu and click "Apply" then "OK".

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Programs

- **Uninstall a program**

The following is the correct procedure to follow should you wish to uninstall a program that you no longer want to use. NEVER go into C:\Program Files to delete the program's directory. Windows keeps a record in the Windows Registry of all of its configurations, installed items, associations, etc. By uninstalling a program correctly, Windows will delete records and associations specific to this program.

Appearance and Personalization

- **Folder options**: to configure how files, file extensions, etc. are displays es dossiers.
- **Change the appearance of your displays**: to select the resolution of the screen (number of dots per inch or pixels).
- **Personalization:** to choose a screen saver and customize the look of the Windows environment.

Hardware and Sound

- **Display devices (mouse, etc.) and printers**
- **Printers**
    - Allows you to select a default printer, i.e. the printer where jobs will be sent when the print icon is clicked within a program .
    - Allows you to suspend or resume printing or to purge queued print jobs.
    - Properties: allows you to select the type of paper, print quality and other options specific to the printer.
    - Add a new local or network printer.
- Etc.

Network and Internet

- **Homegroup and sharing:** to manage networks and sharing.

User Accounts

- To manage user accounts (adding, modifying, deleting accounts, types of accounts). Every user has a profile in which personalization preferences are retained (display, keyboard, desktop layout, shortcuts, etc.).

2.10 Help

To open Help:

- **Start** menu, select **"Help and Support"** or use the **F1** key anywhere in Windows.
- From any window, click ![icon] .
- From a dialogue box, use the ![icon] button to obtain help for various fields.

To search for a topic:

- Enter one or more key words in the query box

  Search Help   🔍

- Hit "Enter" or click on the magnifying glass icon.

Preview summary:

- Click ![icon]

Print help results:

- Click ![icon]
- or select **Print section** from the **Options** menu.

2.11 Tools

From the Start menu: enter the name in the query box if they are not visible.
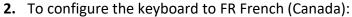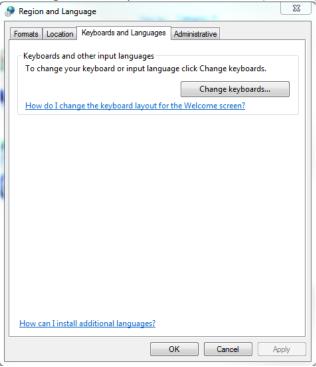
1. **Calculator**:

2. **Character Map**: shows which characters are available in a specific font, including special characters that can be inserted into documents. From the Character Map, you can can copy a character or a group of characters and paste them into any program.

3. **On-Screen Keyboard**: shows which keys correspond to which characters on the physical keyboard.

4. **NotePad**: for creating or reading short, unformatted documents

5. **Paint**: for creating, editing or displaying images.

6. **WordPad**: for creating, editing, formatting or displaying short documents.

7. **Windows Task Manager**: displays all running programs, processes and services on your computer. Use the Task Manager to monitor your computer's performance or to close a program that is not responding. To access Task Manager:

    a. Right-click on the Taskbar, then click Start Task Menu

    b. Keyboard shortcut: **CTRL+SHIFT+ESC**.

3 PREPARATION FOR PROGRAMMING COURSES

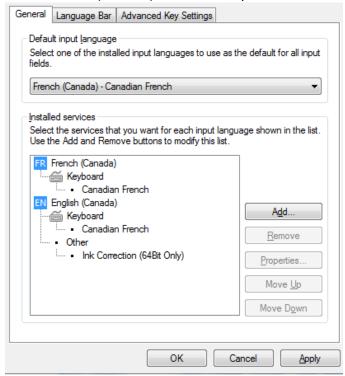## 3.1 Configuring keyboard language to FR French (Canada)

1. **Start menu, then Control Panel, then Change keyboards or input methods** to select keyboard languages.
2. To configure the keyboard to FR French (Canada):

3. Click "Change keyboards"

4. Select French (Canada) from the drop-down menu.
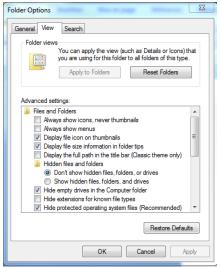

5. If this option is not listed:
   a. Click "Add"
   b. Click the + for the "French" option, and click + for the Keyboard option, then tick the Canadian French option.
   c. Click "Apply"
   d. Select this option from the drop-down menu, then click "Apply" and "OK".

3.2 Displaying file extensions

If file extensions are not displayed, it is because they are hidden by default in Windows 7. To display the extensions, follow these steps:

1. Open the **Start** menu and type "**Folder options**" in the query box or click Control Panel, then Appearance and personalization, then Folder options.

2. Select the "View" tab and untick the box for "Hide extensions for known file types".

3.3 Displaying hidden files, folders and drives

1. To open Folder Options, click the **Start** button🌐, select Control Panel, then **Appearance and personalization**, and choose **Folder Options**.

2. Click on the **View** page.

3. Under Advanced Settings, **tick the box for "Show hidden files, folders and drives"**, then click **OK**.

3.4 File association

1. By default, the files with the following extensions, should be associated with NotePad++:

.htm, .html, .css, .js, .php, .sql, .json, .xml, .txt, .me

2. Click the **Start** button🌐, open **Default programs**.

3. Click **Associate a file type or protocol with a program**.

4. Click the file type or protocol that you want the program to act as the default for.

5. Click **Change program**.

6. Click on the program to be used by default for the specified file type or click on **More programs** to display additional program options. (If **More programs** option does not appear or if the program you want is not listed, click **Browse** to find the program you are looking for and click **Open**. If none of the installed programs are able to open the specified file type or protocol, your choices will be limited.)

3.5 Web Browsers

A web browser is a software program that allows the user to locate, access and display web pages. This is a HTTP client. Add the most popular browsers to your taskbar.

3.5.1.1   Chrome

1. Open Chrome.

2. Click on the menu ☰ , then on Help, then on About Google Chrome

3. Or download it from the following link:
   https://www.google.fr/intl/fr/chrome/browser/desktop/

3.5.1.2   Firefox

1. Download from the following link: https://www.mozilla.org/fr/firefox/new/

3.5.1.3   Internet Explorer 11

1. Download from the following link: https://www.microsoft.com/en-ca/download/internet-explorer-11-for-windows-7-details.aspx

3.5.2 Interface

- The address bar:

- "Previous" and "Next" Buttons

- "Refresh" button

    or us the shortcut key F5

3.5.3 Functionalities

Web browsers enable you to manage the way in which you want to surf the internet.

1. Save often visited web pages to favorites so as not to have to retype addresses every time.

    a. To add a web page to your list of favorites (called Bookmarks in Firefox): Click on the star at the top of the address bar.

        i. You can rename the page for your list

        ii. Choose which file you want to save it under

    b. Keyboard shortcut: **CTRL+D**

    c. Display the list of bookmarks

2. Opening/closing tabs:

    a. To open a new tab in the browser: **CTRL+T**

    b. To close a tab in the browser: **CTRL+W**

3. View browsing history:

    a. In the top left corner, click on the browser configuration menu (☰ or ⚙) and select History or use the keyboard shortcut: **CTRL+H**

        i. To erase browsing history:

            1. Chrome : **CTRL+Y**

            2. Firefox and IE : **CTRL+SHIFT+DEL**

    b. Launch private browsing. Private browsing allows you to surf the internet without leaving any data traces as to websites and web pages visited.:

        i. Google Chrome: **CTRL+SHIFT+N**

        ii. Firefox and IE: **CTRL+SHIFT+P**

        iii. Private browsing only blocks the browser from storing data on your online activity. Other sources continue to access your browsing activity, including:

            1. Your internet provider

            2. Your employer (if you are using a work computer)

            3. The websites you have viewed

        iv. For more information:
            1. https://support.mozilla.org/en-US/kb/private-browsing-use-firefox-without-history
            2. https://support.google.com/chrome/answer/95464?hl=en&rd=2&visit_id=636830724776259008-1551591459

3.6 Text editors and IDEs (integrated development environments)

3.6.1.1 NotePad++

1. Install or update NotePad++ on physical and virtual machines from the following link:
   https://notepad-plus-plus.org/download/v6.9.1.html

2. Configuring preferences :

   a. AutoComplete, New Document >Encoding, ShortCut Mapper

3. Installation of useful plugins:

   a. Indent by Fold

   b. XBracketsLite
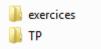
   c. Tool Bucket

   d. Explorer

4. Useful shortcuts

3.6.1.2 IDEs

An integrated development environment (IDE) provides tools to increase the productivity of computer programmers who develop websites and/or applications. These tools enable programmers to write, analyze and debug code.

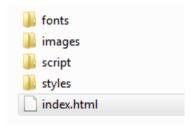## 3.7 Basic structure of web integration projects

1. On your computer's C:\ drive, create one directory per course. Example: P85 :

   P85

2. In this directory, create two folders:

   exercices
   TP

   a. Exercises folder: please save all of your exercises in this folder (see structure below).

   b. TP folder

3. In the TP folder, duplicate the structure below:

   fonts
   images
   script
   styles
   index.html

Files with .css extensions are filed under "styles", .js files are under "script", typographic typefaces are filed in the "font" folder, images are in the "images" folder and the homepage (index.html or index.html or index.php) becomes the root of the project.

Development, Staging and Production

When describing the development environment (dev) of a programmer or of a systems integrator, we are usually referring to the person's machine. The data is visible only to the person working on it.

Once completed, the content is transferred to a staging environment for extensive testing, automatic or manual, in conditions as similar as possible to the actual production's.

Finally, once test results are considered satisfactory, the website goes live in the production environment.

3.8 Version control systems

A version control system is an application which tracks the chronological history of all changes made to a project. It enables programmers to better collaborate by resolving issues which may arise when working on the same file.

SVN and Git are examples of version control systems.

GitHub is a web-based hosting service for version control using Git which offers free user and organization accounts for public and open-source projects.

4 APPENDICES

4.1 Shortcuts

Below is a partial list of shortcuts. Please find the complete list at the following link:
https://support.microsoft.com/en-us/help/12445/windows-keyboard-shortcuts#keyboard-shortcuts=windows-7

4.1.1 General shortcuts in Windows

Function	Shortcut
Open Start menu	⊞
Open Windows Explorer	⊞ + **E**
Close active program	**ALT** + **F4**
Switch between open items	**ALT** + **TAB**
Cycle through open items (Aero effect)	⊞ + **TAB**
Undo an action	**CTRL** + **Z**
Save	**CTRL** + **S**
Open Windows Help	**F1**
Create a new folder	**CTRL** + **Shift** + **N**
Minimize all windows	⊞ + **D**

Preview the desktop	⊞ + **SPACE**
Zoom in or out	⊞ + **+** or **-**
Maximize / Minimize the window	⊞ + ↑ or ↓
Stretch / Reduce the window vertically	⊞ + **Shift** + ↑
Reduce the window to 50% of screen and move right or left	⊞ + → or ⊞ + ←
Open Task Manager	**CTRL + Shift + Esc**

4.1.2 Manipulation (text, files and folders)

Selecting items

Function	Shortcut
Select multiple consecutive items	**Shift** + **arrows** or mouse click
Select multiple non-consecutive items	**CTRL** + mouse click
Select all	**CTRL** + **A**

Editing

Function	Shortcut
Copy	**CTRL + C**
Cut	**CTRL + X**
Paste	**CTRL + V**
Rename selected item	**F2**
Delete selected item (file, folder, text...)	**DEL**

4.1.3 Within the web browser

The following shortcuts can be used in a web browser.

Tabs and Windows

Function	Shortcut
Open a new tab	**CTRL + T**
Close current tab	**CTRL + W**
Move forward through tabs	**CTRL + TAB**
Open a new window	**CTRL + N**
Refresh current page	**F5**
Maximize the current window	**F11**

Functionalities

Function	Shortcut
Add to Favorites	**CTRL + D**
Open History	**CTRL + H**
Previous	**Backspace**
Next	**Shift + Backspace**

Navigation within the page

Function	Shortcut
Scroll up / down on the page	↑ or ↓
Scroll down quickly on the page	**Spacebar**
Move to next field in a form	**TAB**
Go back to previous field in a form	**Shift + TAB**
Go to top of page	**Home**
Go to bottom of page	**End**

4.2 Encoding

4.2.1 ASCII Table

The *American Standard Code for Information Interchange*, commonly known as ASCII is a character encoding standard that was formerly used in programming, recognized for its unquestionable influence on the character encoding systems that succeeded it. ASCII was the most widely compatible in relation to non-accented Latin characters.

The ASCII table contains all the necessary characters to write in English. Other encoding standards, such as Unicode, are now used to provide accented characters.

The ASCII table only defines 128 characters numbered 0 through 127 and encoded in binary from 0000000 to 1111111. Seven bits are thus sufficient to represent an ASCII coded character. However, since almost all computers have been using the 8 bit byte as the common storage element since the 70's, each character in an ASCII text is often stored in a byte with '0' as the 8th bit.

Characters denoting numbers 0 to 31 and the number 127 cannot be displayed as they correspond to computer terminal commands. The character for number 127 is the command for delete and the character for number 32 is the space. The other characters are Arabic numerals, Latin letters of upper and lower case without accents, punctuation symbols, mathematical operators and a few other symbols.

The ASCII standard alone is insufficient when it comes to using it for languages other than English because of the absence of characters (like in French, for example) which is why other encoding systems are also used.

Table of Printable ASCII Characters (codes 32 to 127)

Characters 32 to 127 are common to all variations of the ASCII table. These represent letters, numbers, punctuation marks and other various symbols. Almost all the characters on your keyboard are included. Character 127 corresponds to the DEL command.

Dec	Hx	Oct	Char		Dec	Hx	Oct	Html	Chr	Dec	Hx	Oct	Html	Chr	Dec	Hx	Oct	Html	Chr
0	0	000	NUL	(null)	32	20	040	 	Space	64	40	100	@	@	96	60	140	`	`
1	1	001	SOH	(start of heading)	33	21	041	!	!	65	41	101	A	A	97	61	141	a	a
2	2	002	STX	(start of text)	34	22	042	"	"	66	42	102	B	B	98	62	142	b	b
3	3	003	ETX	(end of text)	35	23	043	#	#	67	43	103	C	C	99	63	143	c	c
4	4	004	EOT	(end of transmission)	36	24	044	$	$	68	44	104	D	D	100	64	144	d	d
5	5	005	ENQ	(enquiry)	37	25	045	%	%	69	45	105	E	E	101	65	145	e	e
6	6	006	ACK	(acknowledge)	38	26	046	&	&	70	46	106	F	F	102	66	146	f	f
7	7	007	BEL	(bell)	39	27	047	'	'	71	47	107	G	G	103	67	147	g	g
8	8	010	BS	(backspace)	40	28	050	(	(	72	48	110	H	H	104	68	150	h	h
9	9	011	TAB	(horizontal tab)	41	29	051	)	)	73	49	111	I	I	105	69	151	i	i
10	A	012	LF	(NL line feed, new line)	42	2A	052	*	*	74	4A	112	J	J	106	6A	152	j	j
11	B	013	VT	(vertical tab)	43	2B	053	+	+	75	4B	113	K	K	107	6B	153	k	k
12	C	014	FF	(NP form feed, new page)	44	2C	054	,	,	76	4C	114	L	L	108	6C	154	l	l
13	D	015	CR	(carriage return)	45	2D	055	-	-	77	4D	115	M	M	109	6D	155	m	m
14	E	016	SO	(shift out)	46	2E	056	.	.	78	4E	116	N	N	110	6E	156	n	n
15	F	017	SI	(shift in)	47	2F	057	/	/	79	4F	117	O	O	111	6F	157	o	o
16	10	020	DLE	(data link escape)	48	30	060	0	0	80	50	120	P	P	112	70	160	p	p
17	11	021	DC1	(device control 1)	49	31	061	1	1	81	51	121	Q	Q	113	71	161	q	q
18	12	022	DC2	(device control 2)	50	32	062	2	2	82	52	122	R	R	114	72	162	r	r
19	13	023	DC3	(device control 3)	51	33	063	3	3	83	53	123	S	S	115	73	163	s	s
20	14	024	DC4	(device control 4)	52	34	064	4	4	84	54	124	T	T	116	74	164	t	t
21	15	025	NAK	(negative acknowledge)	53	35	065	5	5	85	55	125	U	U	117	75	165	u	u
22	16	026	SYN	(synchronous idle)	54	36	066	6	6	86	56	126	V	V	118	76	166	v	v
23	17	027	ETB	(end of trans. block)	55	37	067	7	7	87	57	127	W	W	119	77	167	w	w
24	18	030	CAN	(cancel)	56	38	070	8	8	88	58	130	X	X	120	78	170	x	x
25	19	031	EM	(end of medium)	57	39	071	9	9	89	59	131	Y	Y	121	79	171	y	y
26	1A	032	SUB	(substitute)	58	3A	072	:	:	90	5A	132	Z	Z	122	7A	172	z	z
27	1B	033	ESC	(escape)	59	3B	073	;	;	91	5B	133	[	[	123	7B	173	{	{
28	1C	034	FS	(file separator)	60	3C	074	<	<	92	5C	134	\	\	124	7C	174	|		
29	1D	035	GS	(group separator)	61	3D	075	=	=	93	5D	135	]	]	125	7D	175	}	}
30	1E	036	RS	(record separator)	62	3E	076	>	>	94	5E	136	^	^	126	7E	176	~	~
31	1F	037	US	(unit separator)	63	3F	077	?	?	95	5F	137	_	_	127	7F	177	&#127;	DEL

Source: www.LookupTables.com

Table of Extended ASCII codes (codes 128 to 255)

There are many variations of the 8-bit ASCII table. Below is the ISO 8859-1 standard, also known as ISO Latin-1.

128	Ç	144	É	160	á	176	░	192	└	208	╨	224	α	240	≡
129	ü	145	æ	161	í	177	▒	193	┴	209	╤	225	ß	241	±
130	é	146	Æ	162	ó	178	▓	194	┬	210	╥	226	Γ	242	≥
131	â	147	ô	163	ú	179	│	195	├	211	╙	227	π	243	≤
132	ä	148	ö	164	ñ	180	┤	196	─	212	╘	228	Σ	244	⌠
133	à	149	ò	165	Ñ	181	╡	197	┼	213	╒	229	σ	245	⌡
134	å	150	û	166	ª	182	╢	198	╞	214	╓	230	µ	246	÷
135	ç	151	ù	167	º	183	╖	199	╟	215	╫	231	τ	247	≈
136	ê	152	ÿ	168	¿	184	╕	200	╚	216	╪	232	Φ	248	°
137	ë	153	Ö	169	⌐	185	╣	201	╔	217	┘	233	Θ	249	·
138	è	154	Ü	170	¬	186	║	202	╩	218	┌	234	Ω	250	·
139	ï	155	¢	171	½	187	╗	203	╦	219	█	235	δ	251	√
140	î	156	£	172	¼	188	╝	204	╠	220	▄	236	∞	252	ⁿ
141	ì	157	¥	173	¡	189	╜	205	═	221	▌	237	φ	253	²
142	Ä	158	₧	174	«	190	╛	206	╬	222	▐	238	ε	254	■
143	Å	159	ƒ	175	»	191	┐	207	╧	223	▀	239	∩	255	

Source: www.LookupTables.com

4.2.2 Unicode and UTF-8

Unicode

Unicode is an international encoding standard which allows for text exchanges in different languages. Developed by *Consortium Unicode*, allows for the encoding of written text by assigning a unique name and numeric value to all characters - no matter the writing system - that applies across all platforms and software.

UTF-8

UTF-8 (an abbreviation for *Universal Character Set Transformation Format - 8 bits*) is a character encoding designed to code all of the characters contained in the Universal Coded Character Set, initially defined by the International Standard ISO/CEI 10646. Today, it is entirely compatible with the Unicode standard and remains compatible with the ASCII standard which, despite being limited to English (and a few other less common languages), has been widely used for decades.

4.3 Commonly used symbols

Symbol	Description in French	Description in English	ASCII Code
"	Guillemets doubles	Double quotes (double quotation mark)	ALT 34
#	Carré ou dièse ou hashtag	Number	ALT 35
$	Signe du dollar	Dollar	ALT 36
%	Pourcent	Percent	ALT 37
&	Esperluette (Et commercial)	Ampersand	ALT 38
'	Guillemet simple (apostrophe)	Single quote (single quotation mark)	ALT 39
(	Parenthèse ouvrante	Opening brace/bracket or opening curly brace/bracket	ALT 40
)	Parenthèse fermante	Closing brace/bracket or closing curly brace/ bracket	ALT 41
*	Étoile	Asterisk	ALT 42
+	Signe plus	Plus	ALT 43
,	Virgule	Comma	ALT 44
-	Tiret	Hyphen or dash	ALT 45
.	Point	Period, dot or full stop	ALT 46
/	Barre oblique ou signe de division (slash)	Slash or divide	ALT 47
:	Deux points	Colon	ALT 58
;	Point virgule	Semicolon	ALT 59
<	Inférieur à (plus petit que)	Opening angle bracket (less than)	ALT 60
=	Signe égal	Equals	ALT 61
>	Supérieur à (plus grand que)	Closing angle bracket (greater than)	ALT 62
?	Point d'interrogation	Question mark	ALT 63
@	a commercial	At symbol	ALT 64
[	Crochet ouvrant	Opening square bracket	ALT 91
\	Barre oblique inversée (antislash)	Backslash	ALT 92
]	Crochet fermant	Closingsquarebracket	ALT 93
^	Accent circonflexe	Caret - circumflex	ALT 94

_	Souligné	Underscore	ALT 95
{	Accolade ouvrante	Openingbrace	ALT 123
|	Barre verticale	Vertical bar (pipe)	ALT 124
}	Accolade fermante	Closingbrace	ALT 125
~	Tilde	tilde	ALT 126

Whitespace characters : Tab ⇆, ↵Enter, spacebar

4.4 References

- www.openclassroom.com
- www.wikipedia.org