Topic: Software Fundamentals
Lesson 1: Software Basics

Aim	Objectives
Master communication skills and competences in software, types of software and the significance of operating systems	At the end of this lesson, students will be able to: • define software and its types • state the functions of operating systems • conduct interviews • present and discuss findings in pairs and small groups • make a summary based on different media

I. Lead-in

1. Share your opinion on the quotes. Justify your point of view.

2. Share your opinion on the questions. Work in groups of three or four people. Report your ideas to the rest of the group.

a) What is software?
b) What are the functions of software?
c) What software do you use?

II. Vocabulary Focus

1. Do the quiz to find out what you know on the topic of software. More than one option can be correct. Work out the meaning of the words in bold. Work with a groupmate.

1. Software	a) is a set of programs b) is **non-hardware** components of a computer c) is a program that **makes** hardware work d) is a network of computer devices
2. System software	a) is designed for **computer-centric** tasks b) runs independently of the applications

	c) is designed to operate, control, and **extend** the processing capabilities of the computer d) is generally created by the users
3. Application software	a) is designed to help people **accomplish** tasks b) is designed to **satisfy** a particular need of the environment c) is designed to help computers be more productive d) can't **run** without system software
4. Operating system	a) is a program that acts as an **interface** between software and computer hardware b) communicates directly with the user c) is specialised software that controls and **monitors** the **execution** of all programs d) runs user interface
5. Utility software	a) can't add functionality to your computer b) helps users configure, analyse, optimise and **maintain** a computer c) is a program to make the system's operations **smoother** and more efficient d) is usually used to support computer **infrastructure** and manage system resources
6. Programming software	a) is **compilers**, **debuggers**, **interpreters** b) is a programming tool or software development tool c) is programmer's instruments for writing a code d) helps users **interact** with a computer
7. Device driver	a) is a computer program that **operates** or controls a particular type of device that is attached to a computer b) provides interface for hardware c) provides interface for users d) is hardware dependent

2. Watch the video "How Software Is Made" [37] and mark the following statements as true or false. Correct the false ones.

1. We'll use something called object code when writing the binary.
2. In order for the computer to actually run the program, the source code must be turned into binary.
3. If there are any mistakes in the source code, the compiling corrects them, and runs the program.
4. All the source code for the software is stored on the machines of the developers, and they store a copy on a server.
5. The server stores a detailed list of what files were changed, what those changes were, and who submitted it.
6. Problems with the code are called mistakes.

7. When software is released to the public, the software developers install it and leave without any further changes.
8. Software can be made by two different ways: proprietary and open source.
9. The proprietary software is owned by a person or company and sold to make money.
10. The open source approach means that only programmers can get access to the source code.

3. Watch the video again and choose the correct answers to the questions. More than one option can be correct.

1. What is not true about the source code?
   a) It is a set of instructions to the computer.
   b) It is human readable.
   c) It is used only for simple programs.
   d) It can be written in different programming languages.
2. What is compiling?
   a) It's the process of displaying mistakes in the source code.
   b) It's the process of running a program.
   c) It's the process of displaying a computer screen.
   d) It's the process of turning the source code into binary.
3. How are big software projects carried out?
   a) They are divided into parts.
   b) They are built up of files.
   c) They require essential files.
   d) They exclude any collaboration.
4. What helps a group of developers work together over one project?
   a) A detailed list.
   b) The source code.
   c) Changed files.
   d) Revision control.
5. Why do programmers make updates?
   a) To release new versions to the public.
   b) To create newer software periodically.
   c) To meet public requirements.
   d) To fix bugs.
6. What is true about proprietary software?
   a) It is open source.
   b) It can be owned by a company.
   c) It is sold to make profit.
   d) It can be owned by a person.
7. What is not true about open source software?
   a) It is free.
   b) It can be accessed by anyone.
   c) It is hard to find such programs in use today.
   d) It is often created by volunteers who are not paid.

4. Study the main differences between system and application software. Then group the features below according to the type of software. Work with a groupmate.

Aspects	System software	Application software
Definition	It is designed to run a computer's hardware and application programs	Also known as an "app", it is software designed to help the user perform specific tasks
Interaction	Generally, users don't interact with system software as it works in the background	Users always interact with application software while doing different activities
Dependency	System software can run independently of the application software	Application software can't run without the presence of the system software
Types	- operating system - device driver - utility software - programming languages	- web browser - word processing - spreadsheet software - presentation software
Features		

- ✓ Close to the system.
- ✓ Bigger in size, requires large storage space.
- ✓ Fast in speed.
- ✓ Difficult to design.
- ✓ Easy to understand.
- ✓ Easy to manipulate and use.
- ✓ Slow in speed.
- ✓ Difficult to understand.
- ✓ More interactive.
- ✓ Smaller in size.
- ✓ Close to the user.
- ✓ Difficult to manipulate.

5. Match the most common features of Microsoft Word on the left with their functions. Then complete the statements below with the appropriate words.

1. Typeface 2. Formatting 3. Toolbar 4. Menu bar 5. Header 6. Footer 7. Indent 8. Bold 9. Italics 10. Underline	a) is a separate bit of text at the top of a printed page. b) is the bar of icons (save, print, etc.) on the screen below the menu bar. c) is the design of lettering that can include variations in size, weight, slope, width and so on; font. d) draws a line under something printed. e) is a thin, horizontal bar containing the labels of menus in a GUI. f) makes characters slant upward to the right. g) provides access to several text editing functions such as font size and colour, text alignment, lists, and the like. h) is the increase or decrease of space between the left and right margin of a paragraph. i) creates the appearance of darker text by applying a thicker stroke weight to the letters. j) is a name or page number that can be automatically displayed at the bottom of each page of a printed document.

1. The _____ provides the user with a place in a window to find program's essential functions.
2. The Standard _____ lists the icons to save or print a document, spell check, etc., the _____ Toolbar is the area for changing font, alignment, indentation, etc.
3. A font consists of three elements – _____, type style and type size. For example, Palatino bold at 10 points.
4. Type style refers to a visual characteristic of a typeface, for example, **B** for _____, *I* for _____ and U for _____.
5. If you need to change the space between the page margin and where the text aligns, you can click the Increase or Decrease _____ buttons.
6. The _____ and _____ commands allow you to specify customised texts at the top and bottom of every page.

6. Consider the definitions of the terms "compiler" and "interpreter" to understand the key differences between them. Complete the statements below with the word "compiler" or "interpreter" or their derivatives.

Compiler – a program that translates the entire source code in a single run

Interpreter – a program that translates the entire source code line by line

1. A(n) _____ takes an entire program and a lot of time to analyse the source code, whereas a(n) _____ takes a single line of code and very little time to analyse it.
2. A(n) _____ code runs faster while that a(n) _____ code runs slower.
3. A(n) _____ displays all errors after translation. If your code has errors, it will not compile. But a(n) _____ displays errors of each line one by one.
4. A(n) _____ does not replace compilation completely.
5. A(n) _____ can contain a(n) _____ for optimisation reasons like faster performance and smaller memory footprint.

7. Look at some examples of utility software (a–h) and match them with their functions (1–8). Discuss in groups which of them you use more or less often and why.

a) 

b) 

c) 

d) 

e) 

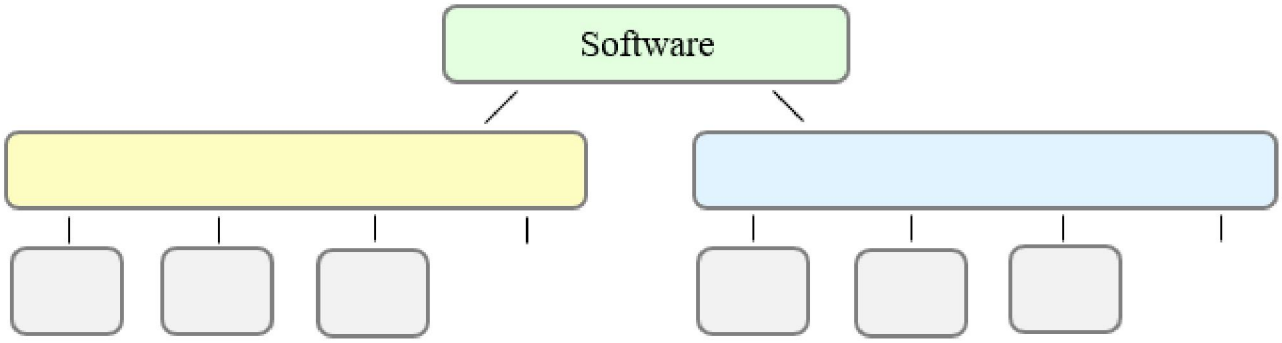
f) 

g) 

h) 

1. Formatting.
2. Disk defragmentation.
3. System clean-up.
4. Anti-virus software.
5. User account and security.
6. Deleting data.
7. Software update.
8. Encryption/Decryption.

8. Complete the diagram and explain how software is categorised and how it works. Use the ideas from this lesson.



III. Language Box

1. Read the abstract "Operating Systems" and consider the following key ideas.

Definition of OS	Tasks of OS	Types of OS

Operating Systems

An operating system (OS) gives your digital device a personality. It controls key elements of the user interface, which includes the visual experience as well as the keyboard, mouse, microphone, or touch screen that collects user commands. Behind the scenes, the operating system is busy supervising critical operations that take place within a device.

The term "user interface" refers to the standard procedures that the user follows in order to interact with a computer. In the late 1970s and early 1980s, the way users accessed computer system was very complex. They had to memorise and type a lot of commands just to see the contents of a disk, to copy files or to respond to a single prompt. It was known as a command-line interface (CLI). In fact, it was only experts who used computers, so there was no need for a user-friendly interface.

In 1984 Apple produced the Macintosh, the first computer with a mouse and a graphical user interface (GUI). Macs were designed with one clear aim: to facilitate interaction with the computer. A few years later, Microsoft launched Windows, another operating system based on graphics and intuitive tools. Nowadays, computers are used by all kinds of people, and as a result there is a growing emphasis on accessibility and user-friendly systems.

A GUI makes use of a WIMP environment: windows, icons, menus and pointer. The background of the screen is called the desktop, which contains labelled pictures called icons. These icons represent files or folders. Double-clicking a folder opens a window which contains programs, documents, or more nested folders. When you are in a folder, you can launch a program or document by double-clicking the icon, or you can drag it to another location. When you run a program, your PC opens a window that lets you work with different tools. All the programs have a high level of consistency, with similar toolbars, menu bars, buttons and dialog boxes. A modern OS also provides

access to networks and allows multitasking, which means you can run several programs or do various tasks at the same time. In some digital devices, such as smartphones and ebook readers, the entire operating system is small enough to be stored in ROM. For most other computers, the operating system program is quite large, so most of it is stored on a hard disk or SSD.

During the boot process, the operating system kernel is loaded into RAM. A kernel provides essential operating system services, such as memory management and file access. The kernel stays in RAM the entire time your computer is on. Other parts of the operating system, such as customisation utilities, are loaded into RAM as they are needed.

The most popular operating systems are as follows:

- The Windows Family – designed by Microsoft and used on most PCs.
- Mac OS – created by Apple and used on Macintosh computers.
- Unix – a multiuser system found on mainframes and workstations in corporate installation.
- Linux – open-source software developed under the General Public License. This means anybody can copy its source code, change it and distribute it. It is used in computers, appliances and small devices.

These computer platforms differ in areas such as device installation, network connectivity or compatibility with application software.

An operating system is a set of programs that lies between application software and the computer hardware. The most important program in the OS, the program that manages the OS, is the supervisor program, most of which remains in memory and is thus referred to as resident. The supervisor controls the entire OS and loads other programs (called nonresident) from disk storage into memory only as needed.

2. Find the key concepts in Task 1 that correspond to the following descriptions:

a) a set of instructions and statements written by a programmer using a computer programming language;
b) a folder stored within another folder; technically, it's a "subfolder";
c) start instructions;
d) the ability to remain the same in behaviour or qualities;
e) a line of code instructing a computer;
f) a series of actions conducted in a certain order or manner;
g) an element of a computer program (such as a graphics application) that activates and controls a particular function;
h) features through which users interact with the hardware and software of computers and other electronic devices;
i) a computer display area that represents the kinds of objects.

3. Mark the statements as true or false. Correct the false ones. Address Task 1 if necessary.

1. A user interface refers to the standard procedures that users follow in order to interact with each other.

2. In 1994 Apple produced the Macintosh, the first computer with a mouse and a graphical user interface (GUI).
3. The background of the screen is called the top desk, which contains labelled pictures called icons.
4. One click on a folder opens a window which contains programs, documents, or more nested folders.
5. When you are in a folder, you can launch a program or document by double-clicking the icon, or you can drag it to another location.
6. All the programs have a high level of consistency, with similar toolbars, menu bars, buttons and dialog boxes.
7. A modern OS can't provide access to networks and allow multitasking, which means you can't run several programs or do various tasks at the same time.
8. In smartphones and ebook readers, the entire operating system is small enough to be stored in ROM.

4. An OS performs a lot of tasks listed on the left below. Consider them and complete the statements with the words or collocations in the box. Explain how an OS performs these tasks. Discuss your ideas in small groups.

peripheral devices; hardware; application software; RAM; perform tasks; storage space; device drivers

- ✓ Manage processor resources to handle simultaneous input, output, and processing tasks.
- ✓ Manage memory by allocating space for all the programs and data that are in use during computing session.
- ✓ Keep track of storage resources so that files and programs can be found and manipulated.
- ✓ Ensure that input and output proceed in an orderly manner by communicating with peripheral devices.
- ✓ Establish basic elements of the user interface such as the appearance of the desktop, menus, and toolbars.

An operating system interacts with 1) _____, 2) _____, and 3) _____ to manage a set of resources. In the context of digital devices, the term resource refers to any component that is required to 4) _____.

The processor is a device's main resource. 5) _____, 6) _____, and 7) _____ are also resources. While you interact with application software, the operating system is busy behind the scenes performing resource management tasks, such as the ones mentioned on the list on the left.

5. Share your opinion on the questions with a groupmate.

1. What is a user interface?
2. How does a GUI differ from a CLI?
3. What is a WIMP environment?
4. Where is an OS stored?
5. What services does OS kernel provide?
6. What are the most popular OSs and how do they differ?

6. Consider the characteristics of the three types of OSs below and identify which one they belong to.

Desktop OS	Mobile OS	Server OS

1. It accommodates one user at a time but allows multiple accounts.
2. It provides connectivity to wireless local area networks.
3. It provides a utilitarian user interface.
4. It accommodates one user at a time.
5. It includes file management tools.
6. It includes integrated cellular communications.
7. It accommodates multiple simultaneous users.
8. It runs more than one application at a time.
9. It includes sophisticated network management and security tools.
10. It offers a GUI designed for touchscreen input.
11. It provides local area networking capabilities.
12. It offers a GUI designed for keyboard and mouse input.

7. Share your opinion on the questions with a groupmate.

1. Does only the hardware require the software?
2. In what cases do you install device drivers?
3. When and what for does a computer require utilities?
4. What are translation programs and how do they differ?
5. What is the role of OS? What types of OS do you often use?
6. What do you need a user interface for?

IV. Decision Bank

1. Share your opinion on the question. Then listen to a podcast interview with Bill Thompson, a program developer [59], to compare your ideas.

a) Why is Windows so popular? Give the reasons.
b) Which Windows Vista edition is aimed at high-end PC users, gamers and multimedia professionals?

2. Listen again and complete the fact file.

Windows Vista editions	Other features	Internet and security	Windows programs
1) _____ is designed for users with basic needs, such as email and Internet access.	The user interface has been redesigned with new icons and a new 4) _____.	Internet Explore is more reliable and secure.	The most popular is still 8) _____, a suite that includes the 9) _____, Word, an email program, the

Home Premium is for advanced home computing and 2) _____ . The Business Edition is ideal for 3) _____ The Ultimate Edition is the most complete	It offers support for the latest technologies, from DVD creation to 5) _____	The Security Centre includes an 6) _____ program called Windows Defender, and a firewall that protects your computer from 7) _____	Excel spreadsheet program; and the 10) _____ program, Powerpoint

3. Study the five versions of Office Suite listed from the cheapest to the most expensive and decide which version provides the best value for the users below. Discuss your ideas in groups of four or five people.

OfficeSuite Standard	**OfficeSuite Small Business Edition**	**OfficeSuite Professional**	**OfficeSuite Premium**	**OfficeSuite Developer**
- word processor - spreadsheet - presentation program - email - PIM	- word processor - spreadsheet - DTP - email - PIM - small business tools	- word processor - spreadsheet - database - DTP - presentation program - email - small business tools	- word processor - spreadsheet - database - presentation program - email - PIM - small business tools - website editor - image editor	- word processor - spreadsheet - database - presentation program - email - PIM - small business tools - website editor - image editor - developer tools

1. A company that wants to produce its own in-house newsletter.
2. A salesperson who wants to make presentations at conferences.
3. An administrative assistant who needs to write office correspondence and send and receive emails.
4. A company that wishes to develop its own website.
5. A programmer who wants to develop applications tailored to a company's needs.
6. A company that wants to analyse all its sales records.
7. A promoter who wants to edit complex graphics and incorporates them in brochures.
8. A company that wants to share documents on a local area network.

4. Use the Internet to find out more about apps. Take notes using the chart. Summarise your findings and report to the group.

The example of an app	The purpose of an app	The main features of an app	The advantages of an app

V. Conclusion Worksheet

Summarise in writing the main ideas presented on the topic of computer software. Give reasons for your ideas and include any relevant examples from your own knowledge or experience. The main topic to consider is as follows:

In the digital world, anything that is not hardware is software. The realm of software "stuff" includes apps, Web applications, operating systems, and files. The core aim of each part of software (OS, DD, utilities, translation programs, etc.) and how it works with other components.

VI. Web Search

Explore the resources in the list to obtain additional information about software and its components. Report your findings to the group.

https://www.klientsolutech.com/what-is-computer-software-computer-software-basics

https://edu.gcfglobal.org/en/computer basics/understanding-operating-systems/1

https://www.indeed.com/career-advice/career-development/types-of-software

VII. Revision Point

1. Read the abstract "Jailbreaking" and translate it into Belarusian or Russian. Use a dictionary if necessary.

Jailbreaking

Jailbreaking is the process of exploiting the flaws of a locked-down electronic device to install software other than what the manufacturer has made available for that device. Jailbreaking allows the device owner to gain full access to the root of the operating system and access all the features. It is called jailbreaking because it involves freeing users from the "jail" of limitations that are perceived to exist.

Ipads, iPhones, and iPods are only allowed to download apps from the official iTunes App Store. Similar apps are available from other sources, but using them requires an unauthorised change to the device's software called a jailbreak. After downloading and installing the jailbreak software, your device will be able to install apps from a variety of sources other than the iTunesApp Store. The jailbreak lasts until you accept a software update from Apple. Updates wipe out the jailbreak software, forcing you to reinstall it. Android phones are not limited to a single app store, so there is no need to jailbreak them to access more apps. There are various ways to make unauthorised modifications to any mobile device to overcome limitations imposed by

mobile service providers. The process is called rooting, but most consumers have no need to root their mobile devices.

2. Read the passage about Linux and choose the options from the ones given in italics to make true statements.

Linux is an *operating system/application software* and it was initially created as the hobby. Apart from the fact that it is *freely/fee-paying* distributed, Linux functionalily, *inflexibility/adaptability* and robustness have made it the main alternative for proprietary Unix and Microsoft operating systems. More than a decade after its *initial/final* releases, Linux is being adopted *locally/worldwide*, primarily as a server platform. The OS can also be *incorporated/separate* into the microchips in a process called embedding, and it is *less/increasingly* being used this way in appliances and devices.

3. Read the passage about databases and complete the gaps with the words in the box.

updated; sort; database management system; files; hyperlinks; search; records; index; database; field

A(n) 1) _____ is a collection of related data, and the software used in databases to store, organise and retrieve the data is called the 2) _____. A database can manage any type of data, including text, numbers, images sound, video and 3) _____. Information is entered into the database via a(n) 4) _____. Each holds a separate piece of information, and the fields are grouped together in 5) _____. They are grouped into 6) _____ which hold large amounts of information. Files can easily be 7) _____ – you can always change fields, add new records or delete old ones. A database program lets you create a(n) 8) _____ – a list of records ordered according to the content of certain fields. This helps you 9) _____ the database and 10) _____ records into numerical or alphabetic order very quickly.

4. Get ready to speak on the topics below and assess your performance according to the following scale.

Comprehensive	Rather confident	Limited

- Definition of software.
- Categories of software.
- Types of software.
- Definition and types of operating systems.

Lesson 2: Software Licences

Aim	Objectives
Master communication skills and competences in software purchasing regulations, incident management, software maintenance and software licences	At the end of this lesson, students will be able to: • state software licences and explain key features of copyright • define pros and cons of open source and proprietary software • present basic incident management guidelines • present findings in pairs and small groups • write a summary based on different media

I. Lead-in

1. Conduct a survey among your groupmates about their prior behaviour in relation to buying and installing computer software. Complete the chart. Then report your findings to the group.

Computer device	What are the most essential applications?	What software do you download for free?	What software do you have to purchase?
Desktop computer			
Laptop			
Smartphone			

2. Share your opinion on the questions with a groupmate.

a) Why is most software licensed?
b) How does software licensing work?
c) What types of software licences do you know?

II. Vocabulary Focus

1. Match the words in Column A with their synonyms in Column B.

A.	B.
permissible	loan
warranty	guarantee
bound	agreement
treaty	obliged
lend	view
perspective	authorised

2. Read the abstract "Software Licencing" and work out the meaning of the words and word combinations in bold.

Software Licencing

In most countries, computer software is protected by copyright. copyright is a form of **legal protection** that grants the author of an original work an **exclusive right** to copy, distribute, sell, and modify that work.

Purchasing software is not the same as buying **tangible goods**, such as mittens, chairs, and shoes. Once they've been purchased, tangible goods can be used, altered, loaned to friends, resold, or given away. In contrast, a software "purchase" is actually a licence agreement that may include certain **restrictions**.

From a legal perspective, there are two categories of software: public domain and proprietary. Public domain software is not protected by copyright because the copyright has expired or the author has placed the program **in the public domain**, making it available without any restriction. Public domain software may be freely copied, distributed, and even resold. The primary restriction on public domain software is that you are not allowed to apply for copyright on it. Proprietary software has restrictions on its use that are **delineated by** copyright, patents, or licence agreements. Some proprietary software is **distributed commercially**, whereas some of it is **free of charge**. Based on **licencing rights**, proprietary software is distributed as commercial software, freeware, demoware, shareware or open source software.

Licence (Br.E.) / License (Am.E.) – an official document that gives someone permission to do or use something

3. Complete the gaps with the appropriate words and word combinations in the box to make true sentences.

unauthorised parties; stand for; intellectual property; set of restrictions; legal contract; copyright law; used interchangeably

1. Software copyrights protect the rights of the person or corporation that developed the _____.
2. A software licence, or licence agreement, is a _____ that defines the ways in which a computer program may be used.
3. Without copyright protection, software would be copied and distributed by _____ without compensation to its authors.
4. Copyright protects a software product by imposing a _____ on its use.
5. Although copyrights, trademarks, and patents are frequently _____, they offer different forms of protection for intellectual property.
6. Not all types of work can be copyrighted. Ideas, discoveries, concepts, or theories cannot be protected under _____.
7. Copyright protection varies from country to country and can _____ 50 to 100 years after the individual's death, depending on the country.

4. Read the definitions below and decide what concepts from Task 2 they refer to.

1. The exclusive right to produce copies and control an original work, granted by law for a specified number of years.
2. A real thing that exists in a physical way.
3. Connected with or allowed by the law.
4. It is available for everyone to see, to know, to use.
5. An official limit on something.
6. Used to describe a product that is made and sold by a particular company whose name, or a name it owns is on the product.

5. Read the descriptions (1–5) and decide which software licences in the box they refer to. Work with a groupmate.

shareware; freeware; demoware; commercial software; open source software

1. _____ is distributed for free and often comes preinstalled on new devices, but it is limited in some way until you pay for it.
2. _____ is usually sold in retail stores or on Web sites. Most of this software is distributed either under a single-user licence that limits use to one person at a time or multi-user licences to schools, organisations, and businesses.
3. _____ is copyrighted software that is available for free, it is fully functional and requires no payment for its use. This licence permits you to use the software, copy it, and give it away, but the licence does not permit you to alter or sell the software.
4. _____ makes source code available to programmers who want to modify and improve the software. It may be sold or distributed free of charge in a compiled form, but it must, in every case, also include the source code.
5. _____ is copyrighted software marketed under a try-before-you-buy policy. It is similar to demoware but typically does not have built-in limitations that are removed when a consumer switches to a paid version.

6. Present a short report on how different types of software licences work. Use online resources, the information from this lesson, and your prior experience. Work in groups of three or four people.

Software Licences	Main Features	Advantages and Disadvantages	Examples of Products
Commercial software			
Freeware			
Demoware			
Shareware			
Open source software			

7. Software licences are often lengthy and written in legalese, therefore, it is very important to understand the software licence for any software you use. Read the end-user licence agreement (EULA) below and answer the questions.

a) Is the consumer buying the software or licensing it?
b) When does the licence go into effect?
c) Under what circumstances is it legal to make copies?
d) Is it permissible to loan the software?
e) Is it permissible to sell the software?
f) Does the software publisher provide a warranty?

Legalese – language used by lawyers in legal documents that is difficult for ordinary people to understand

Software Licence Agreement

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8. Explain the following concepts. Work with a groupmate.

- ✓ copyright
- ✓ software licensing
- ✓ proprietary software
- ✓ public domain software
- ✓ types of licences
- ✓ licence agreement
- ✓ copyrighted products

III. Language Box

1. Share your opinion on the questions.

a) What do you know about open source software?
b) How is it different from proprietary software? Consider cost, benefits, who writes it, and how many people use it.
c) Can you think of any disadvantages of using open source software?

2. Read the abstract "Open Source vs Proprietary Software" and list the key differences between them.

Open Source vs Proprietary Software

First, open source software comes with a great advantage since it can be installed for free. But this is not the only important thing. There is freedom from the software vendors. Many companies say that freedom is the number one reason to choose open source software. With open source software the organisations do not have to follow the software vendor's decisions. With proprietary software the vendor controls software updates. Furthermore, it can be used and deployed again and again on multiple machines without the need of tracking the licence compliance and terms of use.

Second, open source software helps companies save the time and money by providing ready to use software as a whole. Besides, many of these programs are created to work with almost any type of platform, which helps extend your hardware life and avoid the need to constantly replace them.

Also, with open source companies have more control of their data. Proprietary software stores data in such ways that when a company wants to change to a different vendor's software, moving data to this new software can be very difficult. With open source software it is open and not a secret. Because of this, moving data is not a problem.

Sometimes people worry about the quality of open source software. But, open source software is usually developed by a group of talented and skillful experts. Hence why most of the open source software is high-quality programs. Since anyone can access the code and fix a bug, you will notice continuous improvement and new versions or features added to the software every now and then. Users also think that their favourite software programs won't run on open source operating systems. However, it's not true, because there is a lot of office software for open source operating systems. It's only special areas, such as graphics design, where proprietary is clearly better.

3. Listen to John Clark, the sales representative of a major operating system company, explaining why open source is a bad idea [60]. Match the beginnings of the sentences (1–7) with the appropriate endings (a–g).

1. John Clark thinks that companies are making a big mistake 2. Many people think open source software is 3. Open source software is often 4. Open source operating system providers often 5. Companies that produce proprietary software can 6. Proprietary software has more features, 7. Most commercial software doesn't run	a) unfamiliar, so additional training is required. b) a better-looking interface and fewer bugs. c) using open source software. d) pay salaries to their software developers. e) on open source operating systems. f) cheaper than proprietary software. g) make money by charging for support

4. Listen to John Clark again and make a list of reasons he gives to use proprietary software.

5. Make a list of arguments in favour of using open source software. Compare it with the one in Task 4. Discuss pros and cons of using proprietary and open source software. Work with a groupmate.

6. Imagine that you work as a technician at the advertising company. Your job is to maintain operating systems and software. Read the email from your manager and decide whether to use open source, proprietary software, or some of each. Justify your choice. Work in groups of three or four people.

IV. Decision Bank

1. Share your opinion on the questions with a groupmate.

1. What was the last problem you had with software?
2. What software crashes are common with different types of handheld devices?
3. When you have a problem with a device, what do you do? How can you find help?
4. How can people with a limited set of computer skills find help if problems occur?

2. Read the abstract "Steps to Take Before Calling Tech Support" and match the headings (1–9) with the appropriate paragraphs (A–I).

1. Search the Internet to find solutions.
2. Look for software patches.
3. Undo any recent hardware or software changes.
4. Free up RAM by closing other open programs.
5. Shut down and restart your computer.
6. Boot up in safe mode.
7. Uninstall the software, then reinstall it.
8. Restart the software.
9. Scan for viruses and malware.

Steps to Take Before Calling Tech Support

Unexplained software crashes and error messages can bring your work to a standstill. When this happens, it's tempting to call tech support immediately. But before you make the call, there are basic steps you can take to solve software problems on your own, or at least narrow down their causes.

A. Every piece of software uses RAM. The more software that's running on your computer, the more RAM it uses. So, if a software program refuses to load or is running slowly, the first thing to do is to close all other open applications.

B. Software problems can stem from a conflict with other programs or simply from difficulties the software encountered when starting up. Shutting the program down and restarting it can sometimes resolve these issues.

C. If restarting the problematic program doesn't resolve the issue, try rebooting your computer. Once the computer has fully restarted, relaunch the application in question and see if the problem has been resolved.

D. No matter what software problems you encounter, chances are it's happened to someone else. So, there's a good chance you can find help on the Internet.

E. Newly installed software may conflict with other software. For example, Symantec Norton Antivirus can conflict with competing antivirus products. So, if you recently installed another antivirus program and Norton Antivirus no longer works correctly, uninstalling the other antivirus product could solve your problem.

F. Sometimes, software problems occur because critical application files have been removed, updated, or deleted. If you've recently removed one program from your computer, it's possible you removed DLL (Dynamic Link Library) files that another program relied on. Similarly, adding a program could add or update DLL files.

G. Software vendors may also fix bugs by issuing patches – small software updates that address known problems. Even if you are using the most current version of the software, there may be a more recent patch available for that version.

H. Viruses, spyware, and other forms of malicious software (or "malware") can cause the software to freeze, crash, or quit working entirely. If the tips mentioned above haven't helped solve your software problem, you may also want to scan the computer using both antivirus and anti-malware tools to find and remove viruses and malware. Use the most thorough scan mode available, and remember to restart your machine if the antivirus or anti-malware programs found any threats.

I. Some software malfunctions can be caused by OS settings or other system problems. Windows and Mac operating systems both offer a troubleshooting environment known as safe mode. Safe mode disables non-critical applications and processes, which theoretically makes it easier to isolate problems.

If the tips listed above haven't solved your software problem, it may be time to call tech support. At least, you'll be able to help them narrow down the problems by describing the troubleshooting steps you've already taken on your own.

3. Consider the six situations where people are facing tech problems and identify the source of the issue. Share your opinion on how to fix them with a groupmate.

1. I can't see anything on the computer screen!
2. I've got a problem with my computer. After using it for a few hours, it just crashes. It gives me an error message and I have to restart it.
3. My computer is running slowly. It takes a few minutes just to open a document in the word processor!
4. My computer won't connect to the Internet. The browser window just says, "Connection error: unable to connect to the Internet".
5. When I try to save my work, nothing happens. The window goes grey, and I can't type anything.
6. I've got a problem with my email. Whenever I try to send a message, the program crashes.

4. Imagine that you are technicians discussing IT problems. Choose a problem from the list and roleplay the situation by following the steps in the table below:

- ✓ the smartphone is running really slowly;
- ✓ the app hasn't updated to the latest version;
- ✓ the computer keeps switching off by itself;
- ✓ the customer is having a problem with installing your company's accounting software.

Student A:	Explain the problem to technician B
Student B	Ask what the technician A has already done
Student A:	Answer the technician B's questions
Student B	Offer a solution

V. Conclusion Worksheet

Summarise the ideas on the question "Which software – proprietary or open source – is a better choice for a business, an educational establishment and household?" Make a list of arguments in favour and against. Justify your choice and include any relevant examples from your own knowledge or prior experience.

Proprietary Software or Open Source Software	
Business	
Education	
Household	

VI. Web Search

Explore the resources in the list to obtain additional information on software installation and maintenance basics. Report your findings to the group.

https://www.techtarget.com/searchcio/definition/software-license

https://www.educative.io/blog/what-is-open-source-software-guide

https://www.techtarget.com/whatis/definition/troubleshooting

VII. Revision Point

1. Read the abstract "Pricing Models for Obtaining Software" and translate it into Belarusian or Russian. Use a dictionary if necessary.

Pricing Models for Obtaining Software

Software can be obtained under a variety of pricing models depending on the software vendor. One-time purchase. The traditional way to obtain software is through a one-time purchase in which the consumer pays a set amount to license and use the software without an expiration date. The advantage of the one-time purchase pricing model is that there are no additional fees, and with the exception of a few updates, the software remains basically the same as when it was purchased. Subscription. The subscription pricing model is an established distribution method in which consumers pay a monthly or an annual fee to use the software. Consumers benefit because updates and upgrades are usually included in the pricing. Consumers must remain alert while using subscription services. When a subscription lapses, the software may cease to function. Trial. A third type of pricing model offers consumers the use of a software

product during a free trial period. The trial version may be fully functional, or it may be limited in functionality. When the trial period ends, payment in the form of a one-time purchase or subscription is required. This pricing model is common for software applications, such as antivirus utilities, games, and weather apps, that are preinstalled on new devices. Freemium. Another popular pricing model provides free use of a stripped-down or basic version of the product but requires payment for upgraded features.

2. Match the terms with the definitions.

1. Commercial software 2. Shareware 3. Freeware 4. Demoware 5. Open source software	a) is distributed for free and often comes preinstalled on new devices, but it is limited in some way until you pay for it. b) is in public domain. It is fully functional and requires no payment for its use. c) is distributed under a single-user or multi-user licence that limits use to either one person or organisation/business. d) is copyrighted software marketed under a try-before-you-buy policy. e) makes source code available to programmers who want to modify and improve the software

3. Complete the statements with the words in the box.

domain; open; requirements; piracy; shareware; proprietary; freeware; copyright; licence

1. When shopping for additional utilities and apps, check the system _____ to make sure your device has the correct operating system and necessary hardware capacity.
2. Software is protected by _____, and illegal copying is referred to as software _____.
3. _____ software, such as commercial software, is protected by copyright that grants to its author an exclusive right to copy, distribute, sell, and modify that work.
4. Public _____ software is not protected by copyright.
5. A software _____ can extend or limit the rights granted by copyright.
6. Demoware and _____ are distributed free of charge but require payment for continued use.
7. _____ source software is distributed with its source code and can be modified.
8. _____ is copyrighted software that can be used for free but cannot be altered or resold.

4. Get ready to speak on the topics below and assess your performance according to the following scale.

Comprehensive	Rather confident	Limited

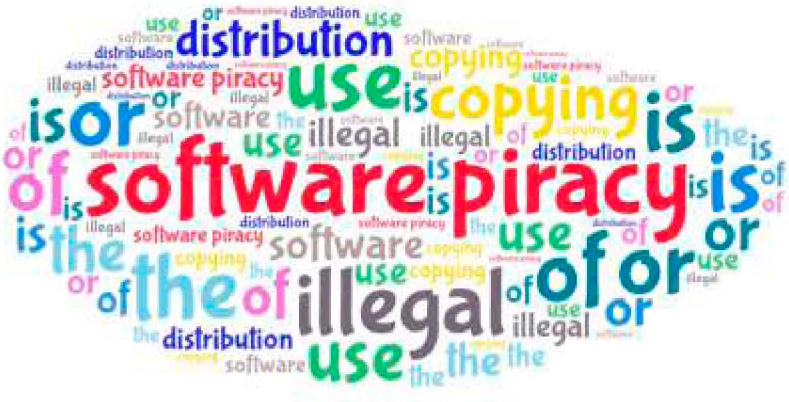
- Definition of copyright and licence agreement.
- Types of software licences.
- Pros and cons of using open source and proprietary software.
- Software troubleshooting basics.

Lesson 3: Software Piracy

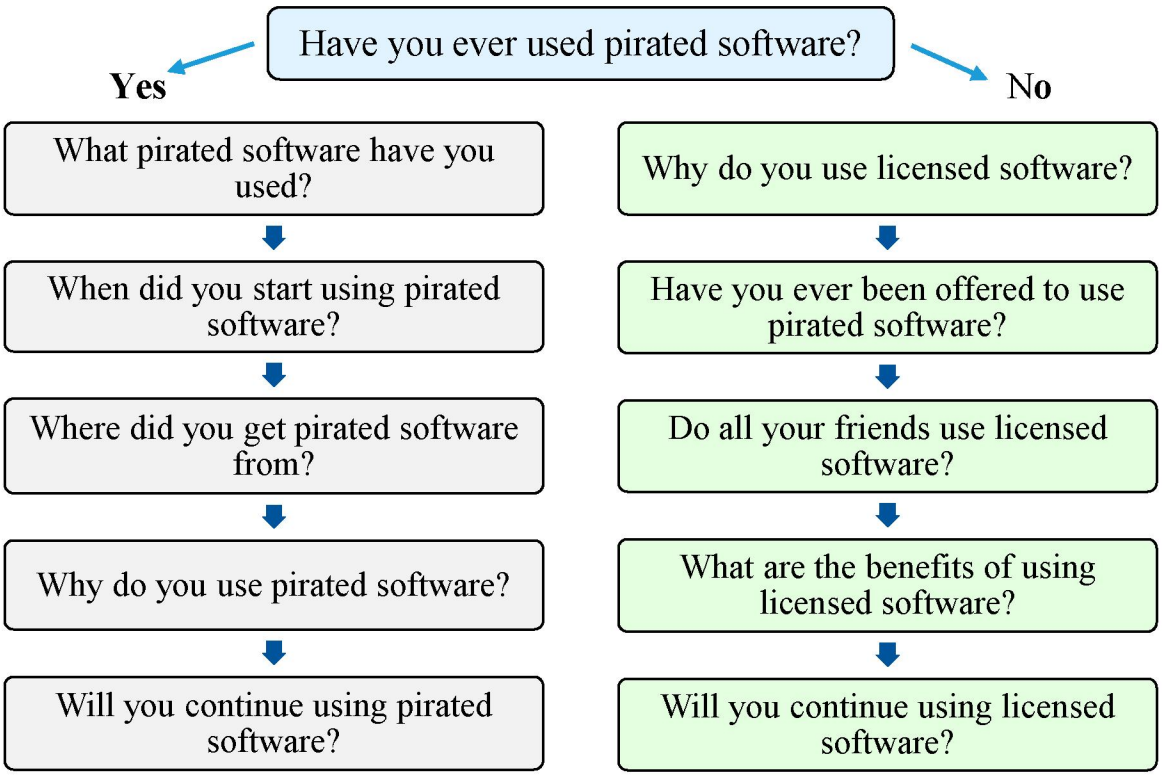
Aim	Objectives
Master communication skills and competences in software piracy and its impact on individuals and communities in terms of social, economic, business, and professional development	At the end of this lesson, students will be able to: • report on the issue of software piracy • define different types of software piracy • state how companies try to prevent software piracy • conduct surveys and interviews • present and discuss findings in pairs and small groups • make a summary based on different media

I. Lead-in

1. Use your background knowledge and the word cloud on the right to define the term "software piracy". Work with a groupmate.



2. Interview your groupmate about pirated software usage according to the questionnaire. Then report your findings to the group.



II. Vocabulary Focus

1. Match the words in Column A with their antonyms in Column B.

A.	B.
unauthorised	forbid
purchase	legitimate
entitle	fake
authentic	sell
counterfeit	legal

2. Work out the meaning of the collocations in the box.

single licensed copy; extensive following; "warez" sites; cracked software; commit a crime; violate the terms; at no cost; retail shops

3. There are different forms of software piracy. To find out more about them, match the types on the left with the definitions. Work with a groupmate.

1. Softlifting 2. Hard disk loading 3. Client-server overuse 4. Counterfeiting 5. Online piracy	a) means producing fake copies of software, making it look authentic; this involves providing the box, CDs, and manuals, all designed to look as much like the original product as possible. b) means sharing a program with someone who is not authorised by the licence agreement to use it; often involves purchasing a single licensed copy of software and then loading the software onto several computers, in violation of licencing terms. c) is the fastest-growing form of piracy with the growing number of users online and rapidly increasing connection speeds which have attracted an extensive following to the exchange of software on the Internet through "warez" sites with cracked software. d) is when too many people on a network use one main copy of the program at the same time; this becomes a type of software piracy if the licence doesn't entitle you to use it multiple times. e) is often committed by hardware dealers; this form of piracy involves loading an unauthorised copy of software onto a computer being sold to the end user; this makes the deal more attractive to the buyer, at virtually no cost to the dealer

4. Test your detective skills. Can you suspect any cases of software piracy in the following situations or are they absolutely legal? Justify your point of view. Work with a groupmate.

a) You've bought a software product in the street corner retail shop with a substantial discount. You think it's a real bargain.

Bargain - something on sale at a lower price than its true value

b) Your roommate gave you some software to copy onto your computer and helped save some money.
c) You've been given a new laptop as a birthday present with preinstalled OS and some other programs which were included as a bonus in the shop.
d) Your friend often uses a peer-to-peer (P2P) file-sharing system to get the software he needs just for free.
e) Some business is on a local area network and downloads the software for all employees to use.
f) You've purchased a single licensed piece of software and aren't going to share it with anybody. You just plan to use it on your desktop computer and your laptop.

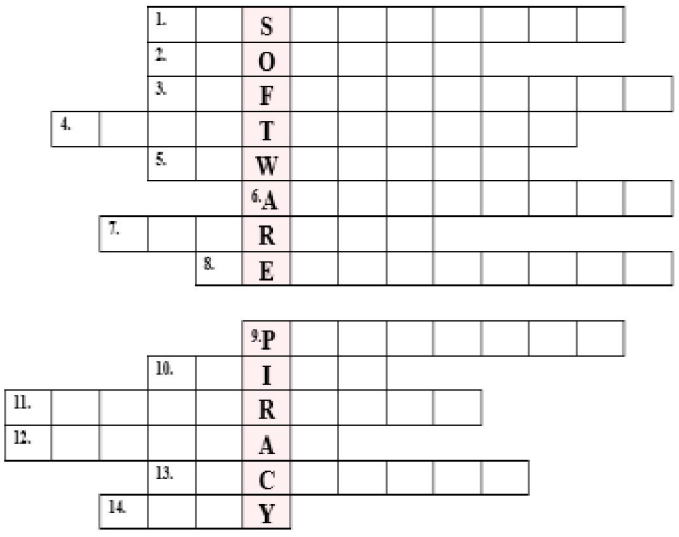
5. Match the words in Column A with the words in Column B to make collocations. Then complete the statement below using them.

A.	B.
criminal	time
steady	lawsuits
monetary	prosecution
jail	Fines
stiff	damage
civil	decline

In many countries to bring software piracy to a 1) _____ , software pirates are subject to 2) _____ for 3) _____ and 4) _____ , which can result in 5) _____ and 6) _____ .

6. Do the crossword and get the words related to software piracy from this lesson.

1. To give sth out to several people, or to spread or supply sth.
2. To act against sth, especially a law, agreement, or sth that should be treated with respect.
3. Sharing a program with someone who is not authorised by the licence agreement to use it.
4. Made to look like the original of sth, usually for dishonest or illegal purposes.
5. To copy or move programs or information into a computer's memory.
6. Real, true, genuine, original.
7. To use sth too often or too much.
8. Allowed by law.
9. To buy sth, to obtain sth.
10. Illegal activities.



11. Having official permission to do sth or for sth to happen.
12. Not allowed by law, unlawful.
13. Having an official document that gives you permission to own, do, or use sth.
14. To produce sth so that it is the same as an original piece of work.

7. Share your opinion on the questions in groups of three or four people.

1. What is software piracy? Why is it considered a crime?
2. What constitutes "unauthorised use"?
3. Who can be held liable for software piracy? What are the types of it?

III. Language Box

1. Read the ideas. Work out the meaning of the words and word collocations in bold.

a) The key reason for such **distasteful habits** is that many of these individuals complain about how expensive the cost of legitimate software is.
b) Just to **spruce up your knowledge**, in case you are unaware, software piracy is **a severe felony**.
c) This means that if you are found guilty, **hefty fines** can be imposed on you or you could even **face jail time**.
d) The online world is virtual and may appear to be **superficial**.
e) The company suffers significant losses in sales and has to **retrench** some of its employees.
f) Once the software is newly introduced, over time it becomes **susceptible to** bugs and other malware attacks.
g) This is because crackers use their time to try to navigate and **penetrate** the system.
h) Legitimate software guarantees you **a clean record**!

2. Read the article "Five Dangers of Using Pirated Software" published on the CodeCondo and consider the following aspects:

- ✓ the topicality of the article (the date of the publication);
- ✓ the reliability of the information provided in the article (the author, the place of the publication);
- ✓ the credibility of the information (references to any official researches, statistics, etc.);
- ✓ the style of the article (narrative, descriptive, directive, expository, argumentative);
- ✓ the functional style of the article (official, scientific, publicistic, newspaper, belles-lettres style);
- ✓ the main idea of the publication.

Five Dangers of Using Pirated Software

Written by Amy Lee
Jan 27, 2023

Software piracy has become a growing problem in recent years. More than a quarter of software installed globally is in fact pirated software, according to the Global Software Survey. This also means that these software companies and developers have also suffered a loss of nearly 50 billion dollars.

The key reason for such distasteful habits is that many of these individuals complain about how expensive the cost of legitimate software is. And the sad news is that both individuals and even business owners have developed this tendency to pirate software. Yet, software piracy does come with consequences.

Just to spruce up your knowledge, in case you are unaware, software piracy is a severe felony. This means that if you are found guilty, hefty fines can be imposed on you or you could even face jail time. This is because one can consider software piracy as cybercrime and theft as it results in abuse and misuse of property that you don't own. In fact, many firms have been raided and taken down simply for using unlicensed software.

So, if you are selfish enough not to be bothered by fines or jail time, malware attacks should scare you. Because this means that you are losing the very same thing you have been working on. Using pirated or unlicensed software puts you at risk of malware attacks.

Some of the common risks you are exposed to when using unlicensed software include credit card and banking info theft, identity theft, ransomware (being locked out of your system until you pay the ransom), ad fraud and even risk the quality of your work being compromised. In actuality, individuals that visit piracy sites or download unlicensed software are almost 50 % more likely to suffer from malware attacks on their devices or networks.

Yes, the online world is virtual and may appear to be superficial. However, legitimate software companies and developers do depend on the sales of these software. So, pirating and the use of unlicensed software does actually equate you to physically robbing a store. This does bring about losses to these companies and directly affects the individuals that work for it.

It's like a chain reaction – you and a million other pirate software, the company suffers significant losses in sales and has to retrench some of its employees. Turns out it the same company that your sister works for, and she is one of those retrenched. In another scenario, these legitimate software developers and companies are the ones that save us from deadly malware attacks thanks to their incredible software designs.

Because you have unlicensed and pirated software installed on your devices, this means that you will not be able to do the constant updating of the software. Once the software is newly introduced, over time it becomes susceptible to bugs and other malware attacks. This is because crackers use their time to try to navigate and penetrate the system.

However, for those with legitimate software, this is a worry they can push to the back of their minds as software developers provide constant updates to counter the problem and leave crackers a step behind.

Because they are acquired illegally, you may not know who developed the software and even where they came from. Thus, if the software malfunctions, you will not be able to know this. Thus, the use of such software can be detrimental to the quality of your work.

Because the pirated software is cracked and slightly altered to be available for free online, this process affects its performance, making it different from the original software. This means that pirated and unlicensed software is more likely to crash, lose files, and even corrupt files.

Therefore, as much as legitimate software appears to be expensive, it is always wise to go for it. This ensures that even your work and the durability of your devices are not compromised. Plus, legitimate software guarantees you a clean record!

3. Decide if the following statements render the main information or additional. Address the publication in Task 2 if necessary. Then match each idea with an appropriate part of the article.

1. Using pirated software can lead to losses of legitimate software developers and companies.
2. No updates for your software are provided in case of using software illegally.
3. A licensed software also works to its full capacity whilst protecting your data.
4. Legitimate software developers can limit their resources for more protective software designs.
5. The risk of malware attacks with illegal software is much higher.
6. Pirated software fails to download the legitimate updates from the actual software developer, thus, leaving your devices and networks vulnerable.
7. The consequences of pirating can even mean up to five years of jail time.
8. Pirated software may be malfunctioned.
9. Software piracy is illegal.
10. Pirated software is designed with backdoors which give easy access to your devices and even networks.

4. Complete the ideas. Address the article in Task 2 if necessary.

a) Software piracy is illegal and can lead to … .
b) Potential malware attacks can become … .
c) In case of piracy, the copyright holder incurs losses on their product(s) that can result in … .
d) No updates will be provided for … .
e) Using illegal software you should be ready for … .

5. Watch the video "Software Piracy in Asia Expands" [45]. Choose which concepts in the box are mentioned in it and explain how they are related to the topic.

law enforcement; open source; pirated stock; intellectual property; operating system; jailbreaking; copyright piracy; unlicensed copy; end-user piracy; legitimate software

6. Watch the video again and complete the sentences with the correct words.

a) This shop owner sells _____ copies of movies and music on a street filled with pirated CD and DVD shops.
b) Merchants in this shopping mall in Thailand employed the same tactic to protect pirated stock from law _____ raids.
c) Durrani Watchan Abuti Wang is an intellectual property rights lawyer. She says _____ is a multi-million-dollar business in Thailand.
d) In Hong Kong law enforcement has been key in _____ piracy.
e) Now we're looking more at issues of _____ piracy.
f) This man quit a piracy business in the Philippines that earned him $4,000 a month after authorities warned that registered computer shops faced huge _____ for selling illegal software.
g) Governments in Asia have gained some ground in the fight against _____ piracy.

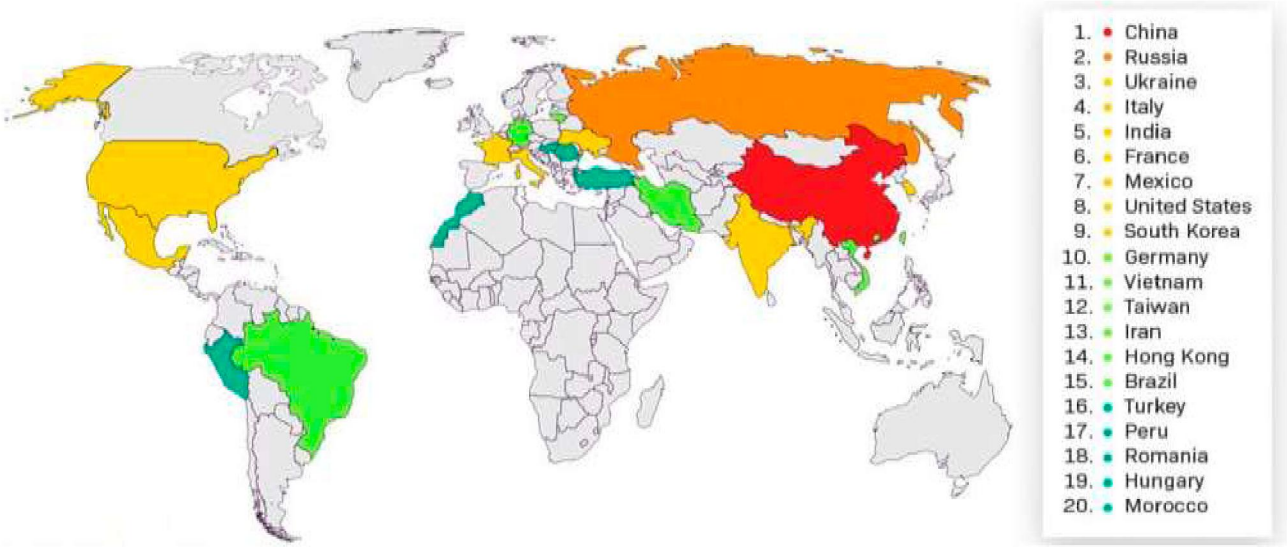
7. Consider the activities and rank them according to their contribution to wise software usage starting with the most essential one. Justify your choice.

1. Be aware of any software's terms and conditions.
2. Purchase software from authorised dealers only.
3. Buying a new device always check whether the preinstalled software is official.
4. Make sure you agree and adhere to the official guidelines and regulations for software installation.
5. Protect your device from any further threats with a reputable antivirus program suitable for your devices.
6. Do not trust big software sales and offered discounts.
7. Never use P2P file-sharing system.

IV. Decision Bank

1. Consider the information about software licence misuse provided by revenera.com on the map below. Do you find any facts surprising? How should Belarus be coloured in your opinion?

Top 20 Software Licence Misuse and Piracy Hotspots



2. Study anti-piracy protection methods and assess them in terms of their efficiency. Justify your point of view.

Legal protection	Most companies make sure their software is officially protected by a user agreement. Letting consumers know that making unauthorised copies is against the law helps prevent people from unknowingly breaking piracy laws
Product key	This is the most popular anti-piracy system, a unique combination of letters and numbers used to differentiate copies of the software. It ensures that only one user can use the software per purchase
Online verification	Companies like Adobe have moved their software into the cloud and require online authentication. Before using their software, you must log into your account, and if another computer or device is already using the program, it must be logged out
Tamperproofing	Some software programs have built-in protocols to shut down and stop working if the source code is modified. It prevents people from pirating the software through the manipulation of the program's code
Watermarking	Specific marks, company logos, or names are often placed on software interfaces to indicate that products are legitimately obtained and are not illegal copies

3. Summarise your ideas on the key aspects of software piracy and get ready to present them to the group. Work with a groupmate.

1. The issue of software piracy in the world today.
2. The state of the issue in Belarus.
3. The hotspots of software piracy nowadays.

4. The methods of protecting intellectual property.
5. Anti-piracy measures, their sufficiency and effectiveness.

V. Conclusion Worksheet

Complete the table to summarise all information about pirated software. Then get ready to present your ideas in a form of a short oral presentation to the group.

Factors, affecting software piracy	Ways of distributing software piracy	Countries with the lowest levels of software piracy	Countries with the highest levels of software piracy	Punishment for software piracy	Forms of software protection
1. 2. …					

VI. Web Search

Explore the resources in the list to obtain additional information on software piracy. Report your findings in a chart.

https://nordvpn.com/blog/what-is-software-piracy

https://cpl.thalesgroup.com/software-monetization/how-to-prevent-software-piracy

https://news.microsoft.com/download/archived/presskits/antipiracy/docs/piracy10.pdf

VII. Revision Point

1. Complete the statements with the words in the box.

legitimate; piracy; authentic; counterfeiting; peer-to-peer; fines; unauthorised; fake; purchased; prosecution; distribution; licence

Software 1) _____ takes many forms. 2) _____ piracy includes friends loaning distribution disks to each other and installing software on more computers than the 3) _____ allows. Although it is perfectly legal to lend a physical object to a friend, it is not 4) _____ to lend digital copies of software and music. 5) _____ is the large-scale illegal duplication of software 6) _____ media, and sometimes even its packaging. 7) _____ software is sold in retail stores and through online auctions – often the packaging looks so 8) _____ that buyers have no idea they have 9) _____ illegal goods.

Internet piracy uses the Web as a way to illegally distribute 10) _____ software. In many countries software pirates are subject to civil lawsuits for monetary damages and criminal 11) _____, which can result in jail time and stiff 12) _____.

2. Choose the options from the ones given in italics to make true statements.

1. More and more cases of software piracy today end up with criminal *resolution/prosecution*.
2. Several thousands of civil *lawsuits/claims* have been filed in courts since the beginning of this year.
3. End-users are becoming more aware of restrictions related to intellectual *ownership/property*.
4. If you have a local area network and install programs on the server for several people to use, you have to be sure it's not client-server *abuse/overuse*.
5. Online *verification/personalisation* is one of the ways to fight against software piracy.
6. A product *key/lock* is used to certify that the copy of the program is original.
7. Law *forces/enforcement* can also provide public information and education support for authorised software distribution and usage.

3. Render the article "How Serious Software Piracy Is" published on the Harvard Business Review in writing.

How Serious Software Piracy Is

Written by Ben Devis
May 4, 2023

Software counterfeiting is the large-scale illegal duplication of software distribution media and sometimes even its packaging. According to Microsoft, many software counterfeiting groups are linked to organised crime and money-laundering schemes that fund a diverse collection of illegal activities, such as smuggling, gambling, extortion, and prostitution. Counterfeit software is sold in retail stores and through online auctions. Often the packaging looks so authentic that buyers have no idea they have purchased illegal goods.

Internet piracy uses the Web as a way to illegally distribute unauthorised software. In Net jargon, the terms *appz* and *warez* (pronounced as "wares" or "war EZ") refer to pirated software. Some warez have even been modified to eliminate serial numbers, registration requirements, expiration dates, or other forms of copy protection. Web sites, file sharing networks, and auction sites sell or distribute hundreds of thousands of pirated software products.

In many countries, including the United States, software pirates are subject to civil lawsuits for monetary damages and criminal prosecution, which can result in jail time and stiff fines. Nonetheless, studies seem to indicate that about 39 % of computer software is not properly licensed. According to the Business Software Alliance (BSA)

and IDC Piracy Study, $82 billion of software was legitimately purchased worldwide, but software worth whopping $52.2 billion was pirated. Piracy statistics seem to indicate a rampant problem, but aggregating the data worldwide hides the real story. A look at geographical regions and individual countries is much more revealing. For example, in the United States, software piracy has been in a steady decline.

The 2016 BSA Global Software Survey reveals that only 17 % of software used by US consumers was pirated. In Japan, the rate has reached an all-time low of 18 %, and the EU is not far behind with a 29 % rate. In contrast, Zimbabwe has a 90 % piracy rate. In Iraq the rate is 85 %, and in Ukraine it is 82 %. China has a piracy rate of 70 %.

Factors such as income levels, law enforcement, and educational outreach are likely to affect the discrepancies in piracy rates among regions and countries. Countries with the lowest income levels tend to have the highest piracy rates. Software priced for developed countries may be beyond the reach of consumers in emerging nations.

The industry, too, is changing. The price tag for consumer-level software rarely exceeds $100. Expensive software titles such as Microsoft Office and Adobe Creative Suite are offered via monthly subscriptions. Affordable software reduces one of the main incentives to seek pirated software.

The popularity of mobile devices also has had an effect on software piracy. Most mobile apps cost just a few dollars, and many of them are free. They are available primarily from app stores that make piracy difficult. Consumers who legitimately purchase low-cost apps for their mobile devices tend not to seek pirated applications for their full-size computers.

As piracy heads in new directions in developed countries, the issue of emerging nations still remains. Some industry analysts believe that productivity gains from using pirated software do not offset gains that might be made if software was legitimately licensed. That argument may be hard to justify, however, to cash-strapped consumers in emerging nations.

4. Get ready to speak on the topics below and assess your performance according to the following scale.

Comprehensive 	Rather confident 	Limited 

- Definition of software piracy.
- Types of software piracy.
- Dangers of software piracy.
- State of the issue globally nowadays.
- Preventive measures against using pirated software.

Wordlist

Topic: Software Fundamentals

Accomplish *v*	Tamperproofing *n*
Application *n*	Toolbar *n*
Authentic *adj*	Typeface *n*
Bar *n, v*	Underline *v*
Bargain *n*	Unauthorised *adj*
Bold *v, adj*	Unlawful *adj*
Bug *n, v*	Update *n, v*
Circumstance *n*	Vendor *n*
Compiler *n*	Warranty *n*
Compiling *n*	Watermarking *n*
Consistency *n*	
Copyright *n*	*Collocations:*
Counterfeit *n, adj*	
Debugger *n*	Clean record
Defragmentation *n*	Client-server overuse
Demoware *n*	Command-line interface
Distasteful *adj*	Commercial software
Entitle *v*	Commit a crime
Fake *n, v, adj*	Computer-centric
Feature *n, v*	Copyright law
Footer *n*	Customisation utilities
Formatting *n*	Device driver
Freeware *n*	Extensive following
Header *n*	Hard disk loading
Hefty *adj*	Intellectual property
Indent *n, v*	Law enforcement
Interface *n, v*	Legal protection
Interpreter *n*	Licence agreement
Italics *n*	Licence compliance
Jailbreaking *n*	Multi-user licence
Kernel *n*	Nested folder
Legitimate *adj*	Online verification
Liable (for) *adj*	Open source software
Modify *v*	Operating system
Monitor *n, v*	Presentation software
Permissible *adj*	Product key
Procedure *n*	Proprietary software
Proprietary *adj*	Public domain
Purchase *n, v*	Single-user licence
Restriction *n*	Software crash
Retrench *v*	Software product
Shareware *n*	Source code
Softlifting *n*	User-friendly interface
Spreadsheet *n*	Utility software
Spruce (up) *v*	Violate the terms
Stock *n, v*	Warez site
Superficial *adj*	Web browser
Susceptible (to) *adj*	Word processing

List of Abbreviations

ADSL – Asymmetric Digital Subscriber Line
AI – Artificial Intelligence
ALU – Arithmetic Logic Unit
API – Application Programming Interface
AR – Augmented Reality
ATM – Automated teller machine (Cash-point)
BIOS – Basic Input Output System
BSoD – Black screen of death
CPU – Central Processing Unit
CU – Control Unit
DDoS - Distributed denial-of-service
DIMM – Dual in-line memory modules
DL – Deep learning
DNS – Domain Name Server
DoS – Denial of service
dp – dot pitch
DSL – Digital subscriber line
DSS – Decision support system
FTP – File Transfer Protocol
GSM – Global System for Mobile Communication (Groupe Spécial Mobile)
GUI – Graphical User Interface
HDD – Hard Disk Drive
HTML – Hypertext Markup Language
HTTP – Hypertext Transfer Protocol
ICT – Information and Communications Technology/Technologies
ID – Identity document
InfoSec – Information security
IoT – Internet of Things
IRC – Internet Relay Chat
IS – Information System
ISP – Internet Service Provider
LAN – Local Area Network
MAN – Metropolitan Area Network
MIS – Management information system
ML – Machine learning
OOP – Object-oriented programming
PAN – Personal Area Network
PC – Personal computer
PDA – Personal digital assistant
PIN – Personal identification number
POP – Post Office Protocol
P2P – Peer-to-peer
P2P – Point-to-point
QoS – Quality of service
RAM – Random Access Memory

ROM – Read Only Memory
RSS – Really Simple Syndication
SDLC – System development life cycle
SDSL – Symmetric Digital Subscriber Line
SMTP – Simple Mail Transfer Protocol
SSD – Solid State Drive
STOP – Security Tracking of Office Property
SU – System Unit
TCP/IP – Transmission Control Protocol/Internet Protocol
TelNet – Telecommunication Network
TPS – Transaction processing systems
UDP – User Datagram Protocol
UID – Unique identifier
URL – Uniform Resource Locator
USB – Universal Serial Bus
VoIP – Voice over Internet Protocol
VR – Virtual Reality
WAN – Wide Area Network
WAP – Wireless access point
Wi-Fi – Wireless Fidelity
WWW – World Wide Web
XML – Extensible Markup Language