



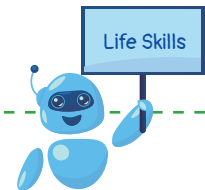
# File Management

After reading this chapter, I will be able to:



- ✓ Define files and folders.
- ✓ Understand about File Explorer in Windows 10.
- ✓ Discuss how to create a file and a folder.
- ✓ Understand how to close and open a file and a folder.

## Brainstorm and explore!



Where will you store the following objects?

1. 	a. 
2. 	b. 
3. 	c. 
4. 	d. 

### Features Highlighted

After reading this chapter, I will be able to: Well-defined learning objectives that are mapped to the curriculum to help students identify the topics they will read about in the chapter.

Brainstorm and explore!: Activities and discussions based on real-life situations to set the context for what students are about to learn.



## Clear up!

YouTube is a popular application used to watch videos on a smartphone.

Using a search engine, find out the programming language(s) that are used to create an app, such as YouTube.



## Crank up!

Smart speakers, such as Amazon Echo Dot and Google Home are examples of devices that contain software. Instead of interacting with these devices through screens and buttons, users interact with them through voice.



## Brush up!

Write the name of two general-purpose application software that you have used.

1. \_\_\_\_\_
2. \_\_\_\_\_



## Today I learned!

- ✓ Software is a set of one or more programs that work together to help the computer perform a task.
- ✓ Software is categorized into system software and application software.
- ✓ The software that helps control the working of the computer is known as system software.
- ✓ The types of system software are operating systems and utility software.
- ✓ An Operations Support System (OSS) is the software used by telecommunication service providers to monitor networks, and analyse a computer or telephone network system.
- ✓ Application software refers to organized software created for a particular purpose.
- ✓ General-purpose software and special-purpose software are types of application software.

### Features Highlighted

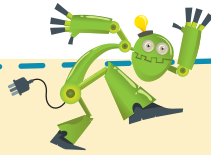
Soak up!: Additional information/facts about the topic being taught.

Crank up!: Tips and shortcut tricks for the topics covered in the chapter to foster inquiry-

Clear up!: Hands-on tasks for revision, based on the application of the concept taught.

Brush up!: Short questions to reinforce the concept learned and promote competency-based learning.

2. **Inability to understand emotions:** A computer does not have feelings. It cannot offer the comfort of a conversation or understanding a joke.
3. **No decision-making skills:** Execution and the inability to make decisions are two sides of the same coin. While a computer can precisely execute instructions given to it, it cannot make decisions on behalf of humans.



### Fun with AI

Computers have come a long way since their invention and have a wide range of applications today beyond the personal computer. Autonomous vehicles, also known as driver-less cars, are powered by artificial intelligence, machine learning, and robotics. The Society of Automotive Engineers has identified six levels of autonomous capabilities. Most cars today are equipped with cameras and sensors. Such cars are at Level 1. Some advanced cars are at Level 2. Level 3 and above are still in the development phase. Did you know that these cars are powered by chips that can perform 30 trillion (that is 30 followed by 12 zeros!) calculations per second?



### Today I learned!

- ✓ The earliest computers were mechanical devices used to hold numbers while calculating.
- ✓ Pascaline was the first computer that could perform calculations.
- ✓ Charles Babbage invented the difference and analytical engines. Both were mechanical computers.
- ✓ Initial electronic computers, such as the ENIAC were huge in size and were very slow.
- ✓ Personal computers were first sold by IBM and Apple.
- ✓ Present day smartphones can be used both as computers and communication devices.
- ✓ Computers can be categorized into five generations based on the hardware and software technology they use.
- ✓ Computers possess fast processing speed and high storage capacity. They are also reliable and portable.
- ✓ Computers rely on electricity, have no feelings, and cannot make decisions on their own.

#### Features Highlighted

Fun with AI: Exemplifies the relevance and application of AI to the concept in the real world.  
TToday I learned!: Recapitulates all the important points covered in the chapter.

## Pascaline or Pascal's Calculator

Pascal's calculator was invented in 1642 (Fig. 1.4). It is named after Blaise Pascal, a French philosopher, physicist and mathematician. The Pascaline was the first mechanical calculator and paved the way for the development of modern calculators. Pascal created it at the age of 19 to help his father perform calculations quickly. Pascal's calculator was a box in which numbers could be entered on metal wheels on the side. The results were displayed on the top.



Fig. 1.4 | *Pascaline*



### Soak up!

Only a few units of Pascalines were made in the world. Some of those are still preserved at museums in France and Germany.

## Difference and Analytical Engines

Both the difference and analytical engines were invented by Charles Babbage in the 1820s and 1830s, respectively. They did not use electricity. The **difference engine** was used to perform more advanced mathematical tasks (Fig. 1.5). The **analytical engine** came later (Fig. 1.6). It was similar to the modern computer—it worked on the IPO cycle, could store data, and had logic and control flow.



Fig. 1.5 | *Difference engine*

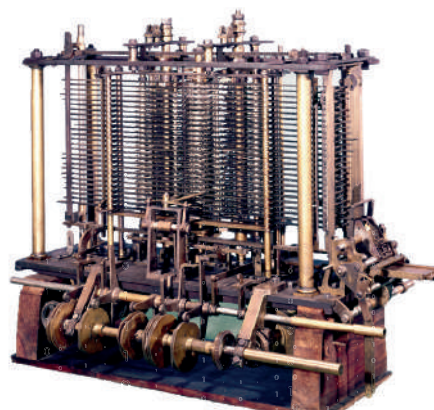


Fig. 1.6 | *Analytical engine*

### Link up!

During World War II, Germany used a device called Enigma to send secret messages. Unable to understand these messages, Britain and other countries were unable to stop Germany. They put together a team of mathematicians lead by Alan Turing to break Enigma. After months of failures, Turing and his team created Turing's Machine, which cracked almost 84,000 coded messages per month. It is said that this shortened the war by almost two years and changed the course of history forever!

### Features Highlighted

Link up!: Real-world examples and situations to help students establish linkages and connections to support the development of lateral thinking.

# Revise and polish!

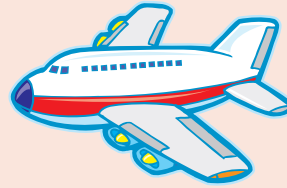


## 1. Tick (✓) the correct answer.

a. Tick the machine that can be placed on a desk.




(ii)






(iv)




b. Tick the machine that helps us reach school.




(ii)






(iv)

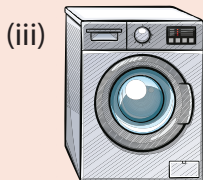



c. Tick the object that is not a machine.

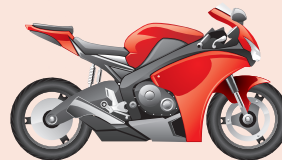



(ii)






(iv)




d. Tick the natural thing.




(ii)






(iv)




### Features Highlighted

Revise and polish!: Revision exercises comprising a blend of both objective and long-answer questions, including both fact- and application-based questions in a variety of formats.



## Lab Activities



1. Open the antivirus software in your computer lab and answer the following questions.
  - a. Which antivirus software do your school computers use?
  - b. Run a quick scan to know whether the computer is infected with virus or not (avoid the full scan). How long does it take to run the scan?
  - c. How many other scans are available in the antivirus software?
  - d. Ask your teacher to show how to check for threats after the scan.
2. Create a presentation on different ways of preventing virus from entering the computer.



## Group Activity



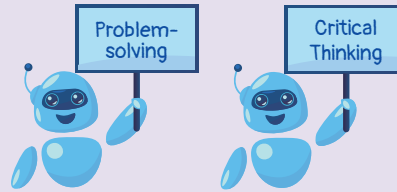
In groups of five, find out the different cases or examples of virus attacks that have happened in the world or from your personal experience. Create a presentation on it and show it to the class.



## Think and Answer



1. Priya loves to browse the internet. Many times, she uses hyperlinks to jump from one website to another. One day, she noticed that she started to get a lot of pop-up ads on her computer. Why do you think this happened?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. Satvik received an email from chairman@sbi.com telling him to change his bank account details by clicking on the given link. Do you think he should go ahead?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
3. While browsing, Ashwin found an update of his favourite game for free (which otherwise is 50 dollars) on one of the gaming websites. He was very excited but was not sure if he should download it. So, he asked his classmate Keerthana. Keerthana said she has downloaded from the same link and he should go for it. Do you think he should listen to Keerthana?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



1. Fill in the correct operators to make these statements true. There may be more than one way of doing this.

a.  $5 \_ 10 = 50$

b.  $2 \_ 4 \_ 6 = 0$

c.  $10 \_ 10 \_ 10 = 10$

d.  $100 \_ 10 \_ 500 \_ 500 \_ 1000 = 2000$

e.  $111 \_ 222 \_ 333 \_ 444 = 1110$

f.  $50 \_ 2 \_ 100 \_ 100 = 200$

2. Sam and his friends are playing a game in which they have to find something common between two or more words from the following grid. Then they have to come up with a new word that links the group of words.

horse	bed	lamp	fire	green
bag	bench	water	vehicle	shirt
speak	hall	bread	table	dates
music	lights	celebrate	gold	stone
ticket	elephants	flower	stage	road

Sam and his friends have already played two rounds, as given in the following table. Continue playing the game and fill the table.

Two word links	Three word links	Four word links
1. music and hall - concert	1. fire, water, and vehicle - firefighters	1. table, dates, bread, and water - snack
2.	2.	2.
3.	3.	3.

3. Lead the rabbit to the carrot.

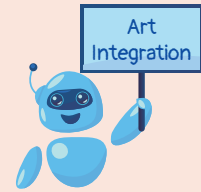
Now write an algorithm describing the path.

You can use these words: go straight, take left, take right, go down, go up





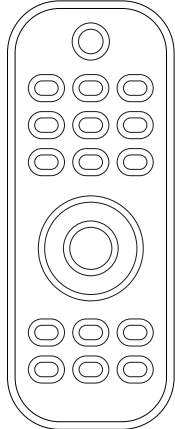
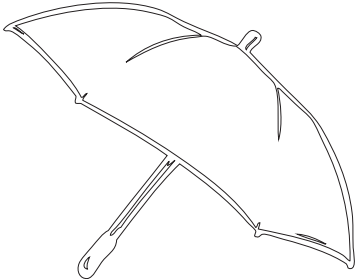
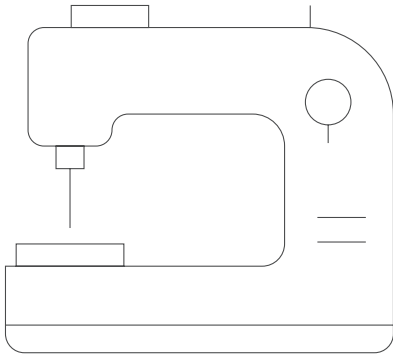
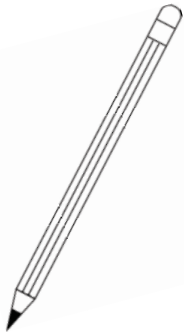

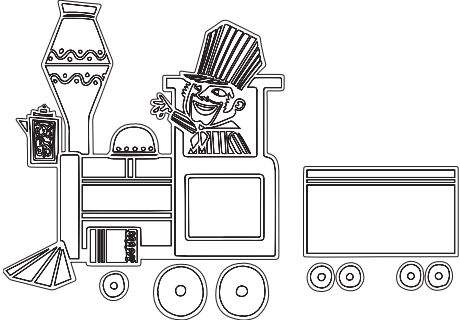
# Worksheet 1 (Chapters 1 and 2)



## 1. Answer the following questions in one word.

- a. Name the place where a computer is used for students to study. \_\_\_\_\_
- b. Name the place where a computer is used to deposit money. \_\_\_\_\_
- c. Name an activity for which you use a computer. \_\_\_\_\_
- d. Which machine do you use the most? \_\_\_\_\_
- e. Name any one machine you have in your study room. \_\_\_\_\_
- f. Name the place where your dad uses a computer. \_\_\_\_\_

## 2. Colour the pictures of machines.

a. 	b. 	c. 
d. 	e. 	f. 

### Features Highlighted

Worksheet: Chapter-based revision worksheets focused on competency-based learning and one dedicated worksheet on developing computational thinking through playing games and problem-solving.



CLASS  
3

QUESTION  
PAPER SET  
A



**SOF NATIONAL CYBER  
OLYMPIAD 2021-22**

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Total Questions: 35 | Time: 1 hr.

### Guidelines for the Candidate

1. You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. Write your **Name, School Code, Class, Roll No.** and **Mobile Number** clearly on the **OMR Sheet** and do not forget to sign it. We will share your marks / result and other information related to SOF exams on your mobile number.
3. The Question Paper comprises three sections:  
**Logical Reasoning** (5 Questions), **Computers and Information Technology** (25 Questions) and **Achievers Section** (5 Questions).  
Each question in Achievers Section carries 2 marks, whereas all other questions carry one mark each.
4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
5. There is only ONE correct answer. Choose only ONE option for an answer.
6. To mark your choice of answers by darkening the circles on the OMR Sheet, use **HB Pencil** or **Blue / Black ball point pen** only. E.g.  
**Q.16: \_\_\_\_ means to hold down the left mouse button while you move the mouse pointer to a new place.**  
A. Single click    B. Double click    C. Dragging    D. Left click  
As the correct answer is option C, you must darken the circle corresponding to option C on the OMR Sheet. 16. (A) (B) ● (D)
7. Rough work should be done in the blank space provided in this booklet.
8. Return the OMR Sheet to the invigilator at the end of the exam.
9. Please fill in your personal details in the space provided on this page before attempting the paper.



Inspiring Young Minds Through Knowledge Olympiads

Name:.....

SOF Olympiad Roll No.:..... Contact No.:.....



# Storage and Memory Devices



**Number of Periods:** 7 (6 Theory + 1 Practical)

**Prerequisite Knowledge:** Understanding of the uses of storage and memory devices

**Prerequisite Skills:** Expression of ideas, content organization, and logical thinking

**Learning Objectives:**

1. What is the difference between *data* and *information*?
2. What is the purpose of internal and external memory?
3. What are the different data storage units?
4. What are primary and secondary data storage devices?

**Learning Outcomes:** At the end of the chapter, students will be able to:

1. Differentiate between the terms data and information.
2. Explain the purpose of internal and external memory.
3. Describe different data storage units.
4. List the primary and secondary data storage devices.

**Skills Acquired:** Gathering and evaluating information, interacting effectively with others, coordinating among partners while working on the system.

**Assessments:** Written assessment for 10 marks can be conducted after the completion of the chapter. Predesigned worksheets can be used for the assessment.

**Final Observation:** Activities planned and done in the class according to the planner.

Name of the students who performed/participated/appreciated well in the class.

Topic and Duration						
<b>Period 1 (Theory)</b> Brainstorm and explore!, Data and Information	Start with the Brainstorm and Explore section. (15 mins)	Students will understand the terms 'data' and 'information' and be able to differentiate between them.	Students will understand the topics with the help of activities			