

### Warm-up Exercise 1:

1. What is the difference between RAM and ROM?
  - RAM is volatile, readable and writable, used to store programs and data when using the computer, data is lost when computer is shut down, normally exists as installed DIMMs on the motherboard.
  - ROM is non-volatile, read-only memory, used to contain fundamental instructions that cannot be lost or changed by the user, normally exists as external CDs.
2. What is the difference between Memory and Secondary Storage?
  - Memory units are either RAM or ROM, the most common type of memory is RAM. RAM can only store data when the computer is running. Secondary storage is used as permanent storage area for programs and data, can store data even when the computer is off.
3. What is a 🤖 software? (LOL a software)
  - Software means a program or a set of programs to operate a computer
4. The difference between Application Software and System Software?
  - Application software consists of those programs written to perform particular tasks required by the users, whereas system software is the collection of programs that must be available to any computer system for it to operate.
5. What are stages in software development?
  - 3 phases: Development and Design, Documentation, Maintenance
6. What is machine language?
  - Machine languages are the lowest level of computer languages. Programs written in machine language consist of 1s and 0s.
7. What is a compiler?
  - A compiler is a translator program that translates programming code into a low-level format.
8. Order the machine language, assembly language, C, C++, Java from lowest to highest language?
  - Machine language (lowest), assembly language, C, C++, Java
9. What is [an] Algorithm?
  - An algorithm is a sequence of steps that describes how the data are to be processed to produce the desired outputs.
10. Write the algorithm for the following computer program using pseudo code:  
let the user input a (positive) number (called num)  
calculate the sum of numbers from 1 to num  
print the result to screen
  - num = positive number user input
  - sum = 0
  - while num >= 1:
    - add num to sum
    - decrement num by 1
  - print sum to screen