



BECE

AND THE

NEW CURRICULUM



The COMMON CORE PROGRAM

- The CCP focuses on the acquisition of the 4Rs and core competences to afford learners the ability to apply knowledge innovatively to solve everyday problems
- Hence, the introduction of computational learning in the ICT curriculum.



OBJECTIVES

- The expectations from candidates
- How these expectations are considered in the BECE questions with the introduction of
 - ❖ Programming
 - ❖ Robotics
 - ❖ Artificial intelligence
- Go through the 2024 marking scheme to see where learners had difficulties so we can use the gathered experiences to better the 2025 results.



EXPECTATIONS FROM CANDIDATES

- ❖ Avoid multiple shading on the objective answer sheets
- ❖ Avoid cancelation of work done. (answers must be brief and concise)
- ❖ Answer exactly the number of questions required by the instructions given.
- ❖ Must answer/attempt the compulsory question
- ❖ In answering questions that demand steps, the first **two steps** must be correct in order to score the needed marks.



EXPECTATIONS FROM CANDIDATES

□ In explaining / describing / defining a term, the following must be considered

➤ The nature

- What it really is. (is it a device, circuit, program/ software or a language? Etc.)

➤ The Components (if it has)

- What it is made up of.

➤ The function

- What it is used for / what it does.



EXPECTATIONS FROM CANDIDATES

- ▮ Using the operator precedence approach to evaluate an expression, all the steps involved in arriving at the answer attract marks. When the most significant step that simplifies an expression is omitted/ wrong, no mark is awarded.
- ▮ The number systems (**conversion of a number system to another**)
 - Decimal
 - Binary
 - Octal
 - hexadecimal



PROGRAMMING

- All about writing a computer code to solve a problem using a programming language such as java, C++, C etc.
- An algorithm is first written, which is the step- by- step procedure for solving a problem. It has well define input / output, finite steps uniquely identified Example:

step1. start

2. declare variables **a**, **b** and **sum**
3. enter value for **a**
4. enter value for **b**
5. add **a** and **b** and assign results **to sum**
6. print **sum**
7. stop

Every programming language has its own rule called **Syntax** likewise an algorithm, a Pseudocode and a Flowchart



PSEUDOCODE

▮ **Statements used to solve a problem.**

Begin

Input a

Input b

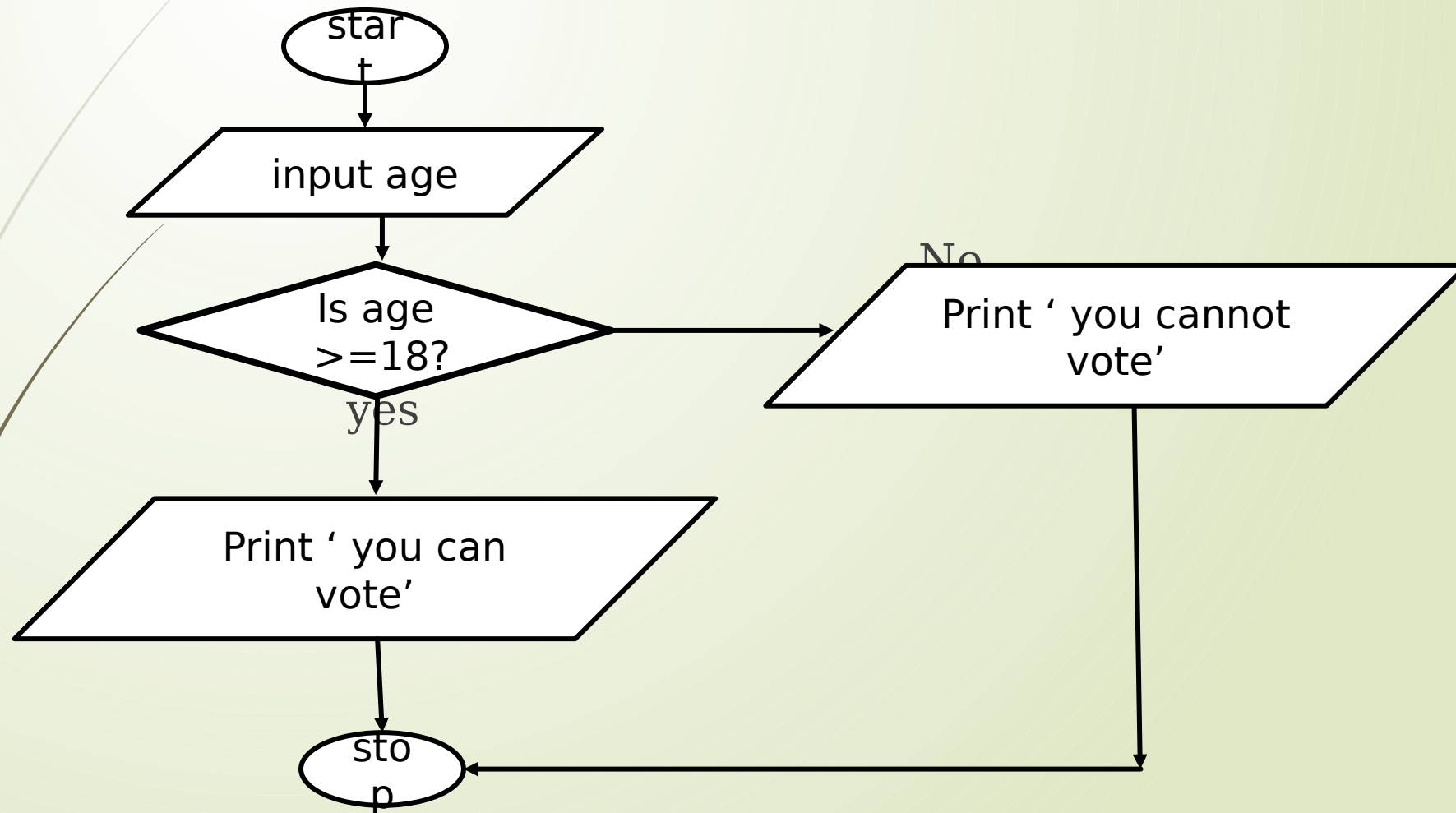
Sum a and b

Print sum

End

A FLOW CHART

- ▮ A graphical representation of an algorithm.





COMMON ELEMENTS IN PROGRAMMING

- Sequencing

The order in which an instruction is performed

- Selection

Decisions made during the program execution

- Iteration

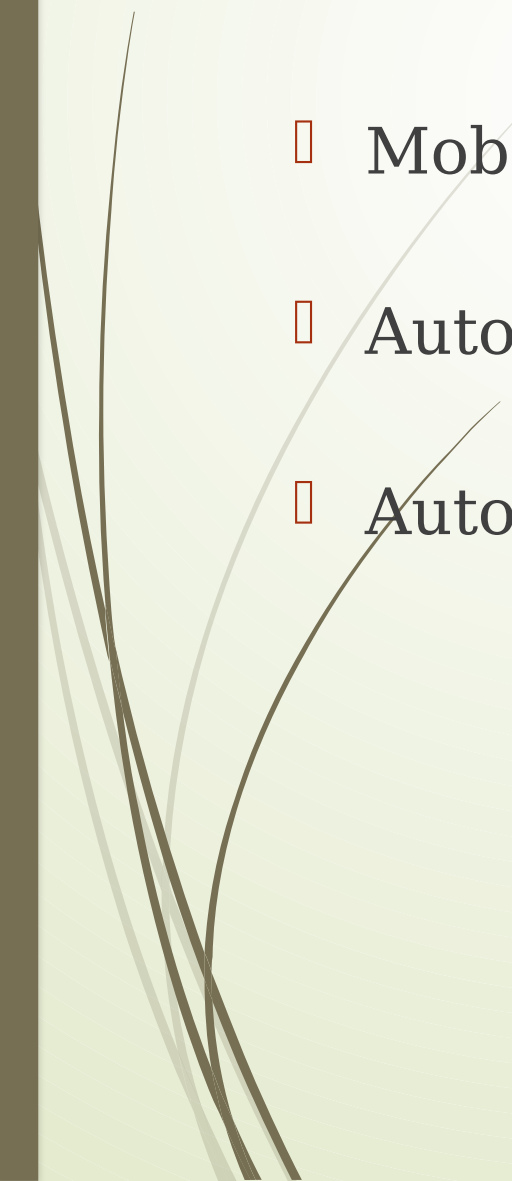
The repetition of an instruction until a condition is met or a task is completed.

ROBOTICS

- ▢ It is a field or branch of study in computer science which involves the design and operation of robots.
- ▢ **A Robot** is a machine that uses programming code to perform task like humans.
- ▢ Basic components
 - **Controller**- a computer that functions as the brain of the robot (the processor of the robot)
 - **Sensors**- detects and respond to the input & output environment
 - **Actuator** – convert energy to motion
 - **Power supply**

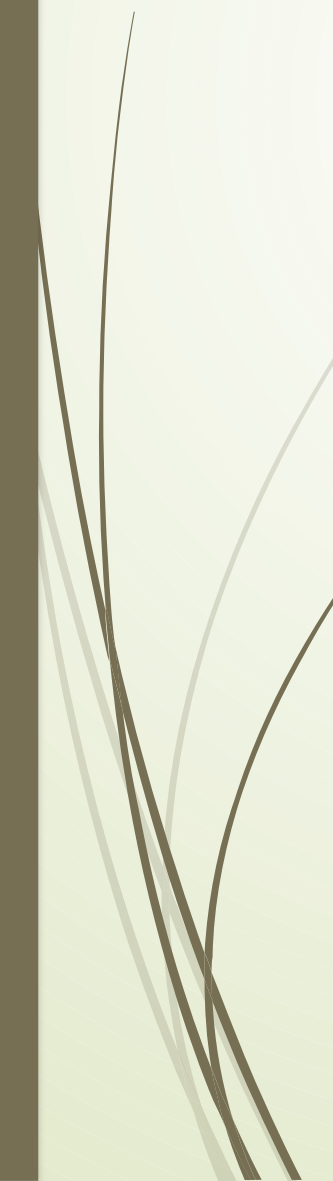


Classification of Robots-

- Mobile
 - Autonomous
 - Autonomous mobile
- 



Application and uses of Robots

- Application and uses
 - Health-perform surgery, manufacture drugs, transport medical equipment
 - Education-
 - Entertainment- video recording, photo taking
 - Research
 - Security and Surveillance etc.
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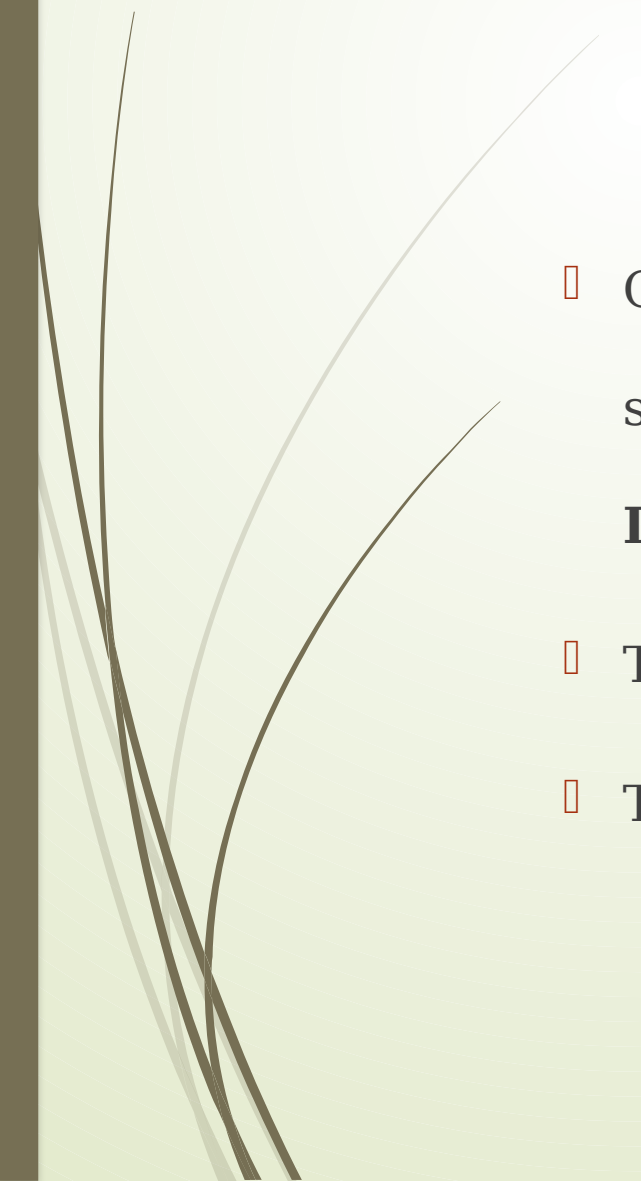


SOFTWARE PROGRAMS FOR THE DEVELOPMENT OF ROBOTS

- C ++, C, Python java, java script, etc.
- These and many more are used because they are object oriented programs.
- They combine data and the function to operate on the data and therefore,
- ❖ Reduces maintenance cost
- ❖ Helps decomposition of a program



ARTIFICIAL INTELLIGENCE



- ❑ Computer program that reasons and uses knowledge base systems to solve complex problems. It is also called expert systems. Mostly, the **IF - THEN** and **IF - ELSE** statements in programming used.
- ❑ The **IF** part satisfies a condition and the **THEN** gives the action.
- ❑ They are usually used for routine activities in programming



Any submissions please?

