

Name M-Reshad
ID 7750
Section A
Subject Introduction to
Computer Programming.

Answer # (1)

Algorithm & draw a flow chart
that will lead the two
Side of a rectangle &
calculate its area.

⇒ Pseudo code.

✓ Input the width (W)
& length (L) of a rectangle

→ ✓ calculate the Area (A)
by multiplying L with
W

→ ✓ Print A.

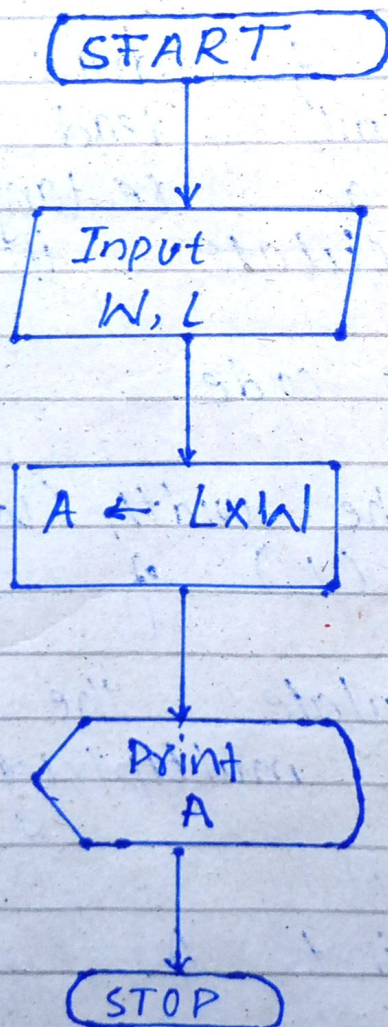
Algorithms & Flow charts

→ Algorithm

Step 1: Input $W, L,$

Step 2: $A \leftarrow L \times W,$

Step 3: Print $A.$



Answer # 1 part B.

There are three kind of error which can occur during execution of a program.

→ Syntax errors

→ Runtime errors

→ Logic errors.

→ Syntax errors :- (or "compile time") errors
Syntax error are "geometrical" error & are detected when you compile the program

→ Syntax error prevent your program from executing.

⇒ Runtime Error :- when you tell the computer to do something illegal

→ Runtime error may halt execution of your program.

⇒ Logic errors :- Logic errors are not detected by the computer

→ Logic error cause your result to be wrong.

(4)

Answer # 2 (A)

We use the `iostream.h` & `conio.h` used in C++ because

→ `iostream` - is standard C++ input & output, contain object like `cout`, `cin` & `cerr`. work with C++ streams, which are objects that manage `iostream` stands for "console input/output a window only header which provide C function for console I/O manipulations like `getch` `ungetch` etc.

&

`conio.h` is a header file used mostly by MS-DOS compilers to provide console input/output it is not part of the C standard library or ISO C, nor is it defined by POSIX. this header declare several useful library function for performing "console input & output from program".

Answer # 2 part B

Maintain & Update the program are the modification of a software product after delivery to correct faults, to improve performance or other attributes or to adapt the product to a modified environment. It deal with updating the software according to change in user requirements.

→ therefore it is important to write a program that easy to read understand & maintain.

Two types of maintenance.

(a) corrective maintenance

(b) preventive maintenances.

Answer # 3.

Differentiate between the following.

(a) Bug & Debug.

(a) Bug:- A software bug is an error, flaw or fault in a computer program or system that cause it to produce an incorrect or unintended way.
 → Bug can trigger error that may have ripple effect.

(b) Debugging is a methodical process of finding & reducing the number of bugs, or defects in a computer program or a piece of electronic hardware thus making it behave as expected.

It is a necessary process in almost any new software or hardware development.

(2) Syntax errors- (or compile time) errors
 Syntax errors are grammatical error & detected when you compile the program
 → Syntax error prevent your program from executing.

(b) Logical errors-
 Logical error are not detected by the computer
 → Logic error cause your result to be wrong.

(3) Compiler & Assembler

⇒ Compiler

Generate the assembly language code or directly the execute code

⇒ Preprocessed source code

⇒ the compiler phase are lexical analyzer, syntax semantic analyzer

⇒ The assembly code generate is a mnemonic version of machine code

Assembler

Generate the relocatable machine code.

Assembly language code.

Assembler make two passes over the given input.

The relocatable machine code generated by an assembler is represent by binary code.

(8)

(4) System Software
System Software

& Application Software
Application Software.

→ collection of program that enable user to interact with hardware component

Collection of program written for a specific application e.g library system.

→ Control & manage the hardware

Uses the service provide by system software to interact with hardware component

→ It is machine dependent

It is a machine Independent.

→ Writing it is a complicated task

writing it is relatively easy.

(5) High level language

Low level language

① High-level language are near to human language

low level language are far from human language

② High level do not provide much facility at hardware level

low level provide facility to write program at hardware level

③ Deep knowledge of hardware is not required to write program

Deep knowledge of hardware is required to write program.