

①

Name:- Fahad Humayun

ID:- 7279

Section:- A

Department:- BE (C)

Q1 Design an algorithm and draw a flowcharts that will read the two sides of a rectangle and calculate its area.

(b) Name different types of errors which occur during the execution of a program

Algorithms and Flowcharts.

Write algorithm and draw a flowchart that will read the two sides of a rectangle and calculate its area.

- Pseudo code.

- Input the width (W) and length (L) of a rectangle.

- Calculate the area (A) by multiplying L with W

- Print A.

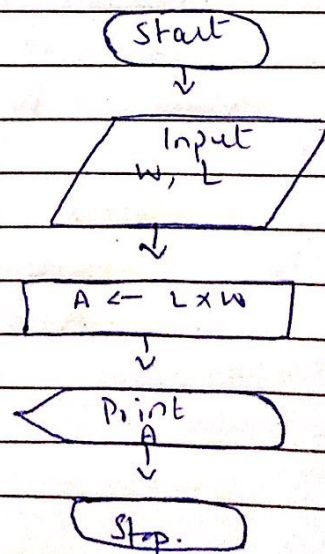
Algorithms and Flowcharts.

- Algorithm

step 1 : Input w, L

step 2 : $A \leftarrow L \times W$

step 3 : Print A



Q2 (b)

(2)

(*) Maintain and update the program terms means that maintenance is the process of modifying an existing program to achieve any of the following outcomes i.e. correction of errors, performance improvement adding functionalities or removing obsolete portions and existing program is updated with few changes in it to meet new requirements.

Q2 (a) Design an algorithm that reads two determines the largest value and prints the.

(b) What do you understand by the term Maintain and update the program Algorithm and Flowcharts.

Write an algorithm that reads two values determines the largest value and prints the largest with an identifying message.

- Algorithm:

step 1: Input Value 1 value 2

Step 2: if (Value 1 > Value 2)

then MAX \square Value 1

else

MAX \square Value 2

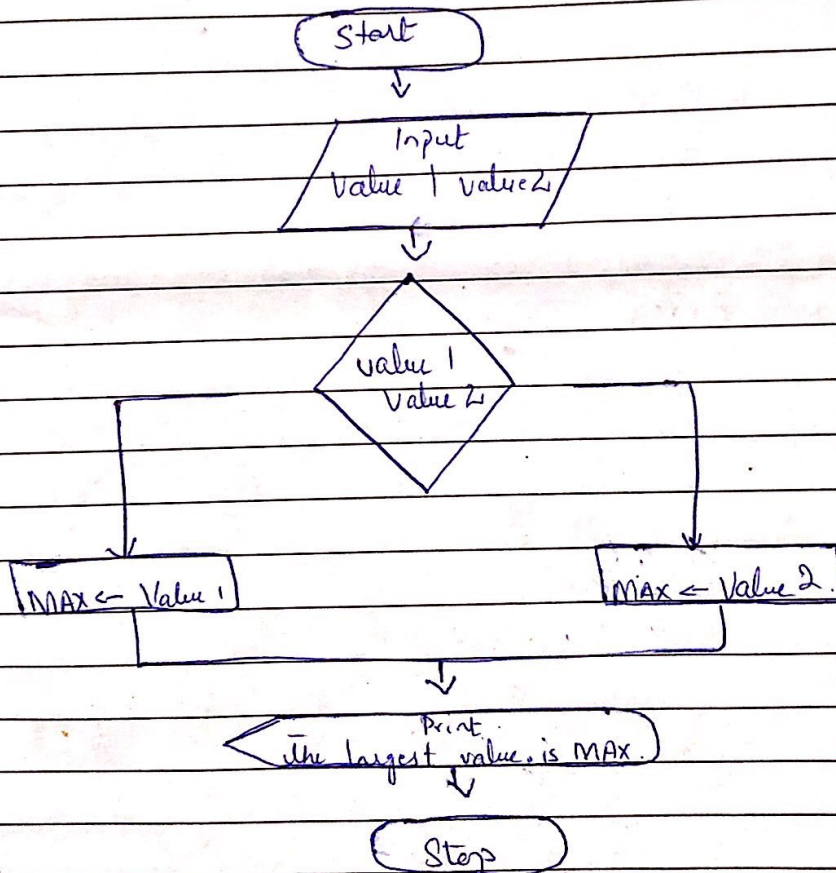
step 3 Print The largest value is MAX.

③

- Pseudo Code

- Input Variable 1 and variable 2
- Check if Variable 1 > variable 2
- Store Variable 1 in another variable MAX.
- Else. Store variable 2 in another variable MAX
- Print MAX.

Algorithms and Flowcharts.



Q 1

(b) Different type of error which can occur during the execution of a program are following.

- 1) - Syntax error.
- 2) Runtime error.
- 3) - Logic error.

Q 3 Differentiate b/w the following.

(a) Bugs:-

Bugs are errors in code of your program that make your program function improperly.

Debugging:-

Debugging is the process of detecting and removing of existing and potential errors in a code that can cause it to behave unexpectedly. To prevent incorrect operation of a program debugging is used to find and resolve bugs.

(b) Syntax Error

Syntax errors occur when a program does not conform to the grammar of a programming language and the compiler cannot compile the source file. Syntax errors are usually easy to fix because the compiler will tell you where the errors are and you simply fix the syntax error.

Logical Error:-

Logic errors occur when a program does not do what the programmer expects it to do. Logic error can occur anywhere in the program.

(c) Assembler:-

Assembler converts the assembly code into the machine code. Assembler input assembly language code. An

(5)

assembler is less intelligent than a compiler and cannot convert code into machine language at once.

Compiler :-

Compiler convert the source code into machine level language. Compiler the whole code into machine language at a time. A compiler is more intelligent than an assembler.

(d) System Software

System Software is the type of a software which is the interface between application software and system and is used for operating computer hardware.

It is developed in low level language which is more compatible with the system hardware in order to interact with. It is independent.

Application Software :-

Application Software is the type of software which runs as per user request and is used by user to perform specific task. It runs on the platform which is provide by system software. High level language is used for their development as they are some specific purpose software. It is dependent on system software.

(e) High level language :-

High level language is programmer friendly language and is less memory efficient and easy to understand. It is simple to debug and maintain. It is portable and can run on any platform.

(6)

It needs compiler or interpreter for translation

Low level languages

Low level language is a machine friendly language and is high memory efficient and tough to understand. It is complex to debug and maintain comparatively. It is non portable and machine dependent. It needs assembler for translation.