

NAME::

NAVEED AHMAD

I.D.::

7880

SUB::

PROGRAMMING

INST.::

SIR ASHRAF ALI.

SEM.::

SUMMER MID

# QUESTION-1 <a>

(1)

Pseudocode

- ↳ input the width ( $w$ ) and length ( $L$ ) of a rectangle
- ↳ Calculate the area ( $A$ ) by multiplying ( $L$ ) with  $w$
- ↳ Print  $A$

**EXAMPLE:**

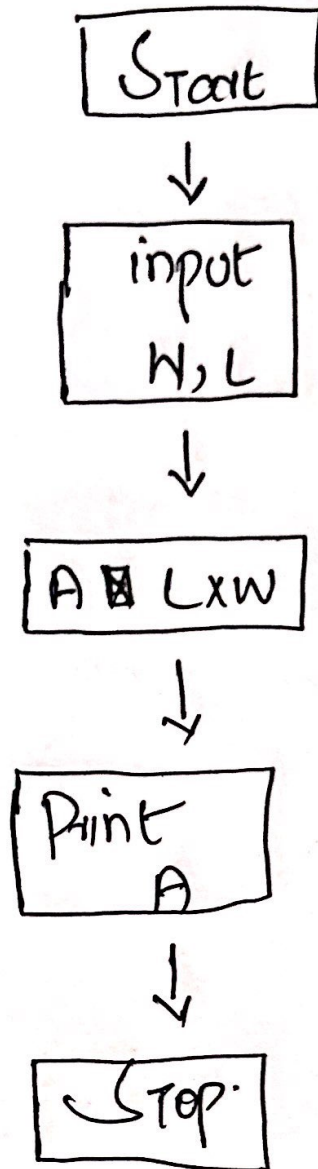
Algorithm

Step 1:- Input  $w, L$

Step 2:  $A = L \times w$

STEP 3: Print  $A$ .

2



③

<b>

## ERRORS IN PROGRAM.

There are three kinds of errors that can occur in program.

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

These are the errors where the compiler finds something wrong with program and you can't even try to execute it.

### EXAMPLE:

You may have incorrect punctuation, or may be trying to use a variable that hasn't been declared.

## SYNTAX ERROR::

It is an error in a Computer Science or programming language entered by programmer. Syntax errors are caught by the compiler and programmer must fix them before program is compiled and then run.

## RUNTIME ERROR::

An error that occurs while the program is running. The term is often used in contrast to other types of error such as syntax errors and compile time errors.

## LOGICAL ERROR::

Logical error is a bug or mistakes in program source code that results in incorrect or unexpected behavior. It is type of runtime error that may simply produce wrong output or may cause a program to crash while running.

## QUESTION-7 Q9

5

Like the `castro` header inherited from C's `stdio.h`, `iostream` provides basic input and output services for C++ programs. `iostream` uses the objects `cin`, `cout`, `cerr`, and `clog` for sending data to and from the standard stream input, output, error (unbuffered) and log (buffered) respectively.

`conio.h` →

`conio.h` is a C header file used mostly by MS-DOS compilers to provide console input/output. It is not part of C standard library or ISO C, nor it is identified by POSIX. This header declares several useful library functions for performing "console input and output" from program.

2-b

(6)

## UPDATE:

An update is a new or fixed software, which replaces older version of the same software.

## EXAMPLE:

Updating your operating system brings it up to date with the latest drivers, system utilities, and security softwares.

Updates are often provided by the software publisher free of additional charges.

# MAINTAIN:..

(7)

Program maintenance is the process of modifying a software or program after delivery to achieve any of these outcomes

- ↳ Correct errors
- ↳ Improve performance
- ↳ Add functionalities
- ↳ Remove obsolete portion

Despite the common perception that maintenance is required to fix errors that come up after the software goes live. In reality most of the maintenance work involves adding minor or major capabilities to existing modules

## Types Of MAINTAINANCE..

- ↳ Corrective maintenance
- ↳ Preventive maintenance.
- ↳ Adaptive maintenance
- ↳ Perfective maintenance



# QUESTION-3

(8)

(a)

## BUG

- ↳ Bug is (informal/transitive) to annoy.
- ↳ Most bugs arises from programming mistakes and few are caused by externals.
- ↳ bug keeps a computer program from working correctly.

## DEBUG

- ↳ Debug is to search for and elimination malfunctioning elements or errors in something
- ↳ Debugging is process of detecting and removing of existing and potential errors.
- ↳ Debugging is used to find and resolve bugs or defects.

## SYNTAX ERROR

- ↳ It occurs due to fault in a programme syntax
- ↳ it is easier to identify a syntax error.
- ↳ In compiled language the compiler indicates the syntax error with location and what error is

## LOGIC ERROR.

- ↳ Logic error occurs due to a fault in algorithm
- ↳ It is comparatively difficult to identify logic error.
- ↳ The programme has to detect the error by itself

9

## COMPILER

- ↳ Translates high level language into machine code
- ↳ Translates all codes at the same time
- ↳ Only needed once to create an executable file
- ↳ Will only inform you of the first error it finds

## ASSEMBLER.

- ↳ Translates assembly language into machine code.
- ↳ uses processors instruction set to convert
- ↳ Runs quickly as conversation between two low level languages is just reliant on the processors instructions set.

# SYSTEM SOFTWARE

Software designed to provide a platform to others

Manages resources and help to run hardware and application software

Run when the system starts and runs till the end.

Developed using languages like C, C++, Assembly.

Essential for the proper functioning of systems.

# APPLICATION SOFTWARE

Software designed to perform a group of coordinated functions tasks or activities for user.

Perform a specific task according to their type.

Runs when ever the user requires.

Developed using languages like Java, C, C++, visual basic

Not very important for functioning of the system

## HIGH LEVEL LANGUAGE

- ↳ It is portable
- ↳ It is programmer friendly language.
- ↳ It is simple to maintain
- ↳ It is simple to debug
- ↳ It needs compiler or interpreter for translation
- ↳ High level language is less memory efficient

## LOW LEVEL LANGUAGE

- ↳ It is non portable
- ↳ It is a machine friendly language.
- ↳ It is complex to maintain complexity.
- ↳ It is complex to debug.
- ↳ It needs assembler for translation.
- ↳ Low level language is high memory efficient