ASSIGNMENT (CA 2)

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STREAM : EE (C)

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Q.1. What is algorithm? state the characteristics of algorithm. write down the flow chart and algorithm to find out the lagest among three given numbers

Ans:- An algorithm is a final set of unambiguous instructions which, when executed performs a task correctly there are three characteristic features in this description of an algorithm.

Not all procedures can be called an algorithm An algorithm should have the following Charcteristics

- Unambiguous:- Algorithm should be clear and unambiguous. Each of its steps, and their inputs should be clear and must lead to only one meaning
- Input :- An algorithm should have 0 or more well defined inputs
- Output :- An algorithm should have 1 or more. well defined outputs, and should match the desired output.
- Finiteness :- Algorithms must terminate after a finite number of steps.

P. T. O →

Algorithm :

STEP 0 ⟶ Start

STEP 1 ⟶ INPUT first number into variable A

STEP 2 ⟶ INPUT second number into variable B

STEP 3 ⟶ INPUT third number into variable C.

STEP 4 ⟶ If A > B . and A > C.

Max = A.

Else if B > A and B > C.

Max = B

else max = c.

STEP 5 ⟶ Display Max.

STEP 6 ⟶ END.

Q.2 What are the different levels of programming languages? What are different trans latern programs? Discuss them.

⇒ There are basically two different levels of program languages.

(i) High level language :- Eg – C, C++, JAVA, Pythonetc.

(ii) Low level languages :- Eg:- Assembly Language, Binary Code.

P. T. O ⟶

There are three types of translator programs:

① Assemblers
② Compilers
③ interpreters

Compilers:- They are system software that translates a program written in high level Language into Machine language.

Interpreters:- An interpreters is a program that directly executes the Instructions in a high level language, without converting it into machine code.

Assemblers:- Assemblers translate a program written in assembly language to machine language.

Q.3 What is conditional operator and bitwise operator? State with example. What is the significance of associativity and precedence rule in evaluativity. and precedence rule in evaluation of an expression.

⇒ Conditional Operators:-

A ternary operator pair "?" is available in C to construct conditional expressions of the form.

exp 1 ? exp 2 : exp 3

where exp 1, exp 2 and exp 3 are expressions

P.T.O →

Bitwise operator :- These operators are used for testing lists, or shifting them right or left. Bitwise operators may not be used in float or double.

Eg :- & ⟶ bitwise AND

| ⟶ bitwise OR

^ ⟶ bitwise exclusive OR.

<< ⟶ shift left

>> ⟶ shift right

The precedence rule is applied in determining the order of application of operators in evaluating sub-expressions.

The Associativity rule is applied when two or more opperators of the same precedence appear in a rule expression.

Q.4 What are the different classification of loop Control structure? Discuss with Code.

=> Depending upon the position of a control structure or statement in a program, loops in 'c' are classified in two types :-

i) Entry Controlled Loop.

ii) Exit Control loop.

P.T.O ⟶

In entry control loop a condition is checked before executing the body of a loop

Eg:- while, for

```
while (condition)
    {
      statements ;
                }
```

In exit control loop a condition is checked after executing the body of a loop.

Eg:-

```
int i = 17.
do
 { ....
   } while (i<7);
```

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