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F.Y. B.Voc. (Software Development)

Subject Name: Programming in C

(Semester - I)

Question Bank

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1. Which of the following is NOT a programming aid?

a) Algorithm

b) Flowchart

c) Pseudo code

d) Calculator

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2. What is the primary function of an algorithm?

a) To translate code into machine language

b) To define a step-by-step solution to a problem

c) To execute a program

d) To debug the program

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3. Which symbol represents a process in a flowchart?

a) Rectangle

b) Diamond

c) Oval

d) Arrow

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4. What is the role of a compiler?

a) To execute code line by line

b) To convert high-level code into machine code

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c) To debug programs

d) To interpret code during execution

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5. What does a flowchart help to do?

a) Execute a program

b) Visually represent the steps in a process

c) Write code directly

d) Debug a program

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6. Which symbol in a flowchart indicates the start or end of a process?

a) Oval

b) Diamond

c) Rectangle

d) Arrow

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7. A diamond shape in a flowchart is used to represent:

a) Input

b) Output

c) Decision making

d) Process

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8. Which data type in C is used to store a single character?

a) int

b) char

c) float

d) double

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9. Which of the following has the highest precedence in C?

a) Addition (+)

b) Multiplication (*)

c) Parentheses ()

d) Logical AND (&&)

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10. What does an operator do in C programming?

a) Stores values

b) Performs operations on variables and values

c) Defines the type of variable

d) Declares variables

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11. What is the basic structure of a C program?

a) Variables, Functions, Loops

b) Preprocessor commands, main function, variable declarations, statements, return statement

c) Functions, Constants, Classes

d) Arrays, Loops, Pointers

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12. Which statement in C is used for conditional branching?

a) for

b) if

c) while

d) do-while

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13. Which statement is used to stop the current loop and move to the next iteration in C?

a) continue

b) break

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c) goto

d) return

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14. What is type casting in C?

a) Changing the value of a variable

b) Converting a variable from one data type to another

c) Removing a variable from memory

d) Declaring multiple variables

Short Answer Questions

1. **Write an algorithm to find given no is Odd or Even.**

Answer:

Step 1: Start

Step 2: Input a number n.

Step 3: Check the condition:

If n % 2 == 0,

then print "The number is even."

Else,

print "The number is odd."

Step 4: End

2. **List down the Stages in Program Development.**

Answer:

i. Problem Definition

ii. Program Design

iii. Coding (Implementation)

iv. Testing

v. Debugging

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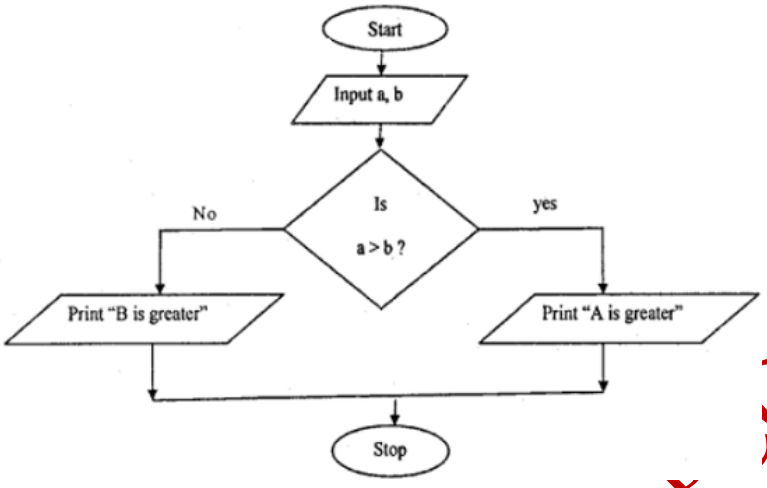
vi. Documentation

vii. Maintenance

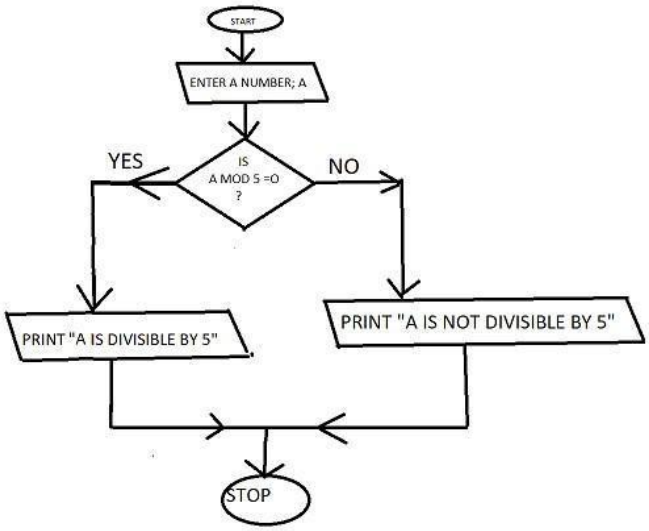
3. Draw flowchart for finding the maximum of two numbers.

Answer:



4. Draw flowchart for finding given number is divisible by 5 or not?

Answer:



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5. Compare Compiler & Interpreter

Answer:

COMPILER	INTERPRETER
1. Compiler Takes Entire program as input.	1. Interpreter Takes Single instruction as Input.
2. Intermediate Object Code is Generated.	2. No Intermediate Object Code is Generated
3. Conditional Control Statements are Executes faster.	3. Conditional Control Statements are Executes slower
4. More Memory Requirement.	4. Memory Requirement is Less
5. Program need not be compiled every time.	5. Every time higher level program Converted into lower level program
6. Errors are displayed after entire program is checked.	6. Errors are displayed for every instruction interpreted (if any)
Example : C Compiler	Example : BASIC

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6. What are flowchart symbols, and write their functions?

Answer:

Symbol	Name	Function
	Start/end	An oval represents a start or end point.
	Arrows	A line is a connector that shows relationships between the representative shapes.
	Input/Output	A parallelogram represents input or ouptut.
	Process	A rectangle represents a process.
	Decision	A diamond indicates a decision.

7. **Write difference between while and do while.**

Answer:

While	Do-while
Condition is checked before executing the loop body.	Condition is checked after executing the loop body.
May not execute at all if the condition is false initially.	Executes at least once, regardless of the condition.
while (condition) { /* code */ }	do { /* code */ } while (condition);
Used when the condition needs to be checked before the loop starts	Used when the loop should run at least once before checking the condition.

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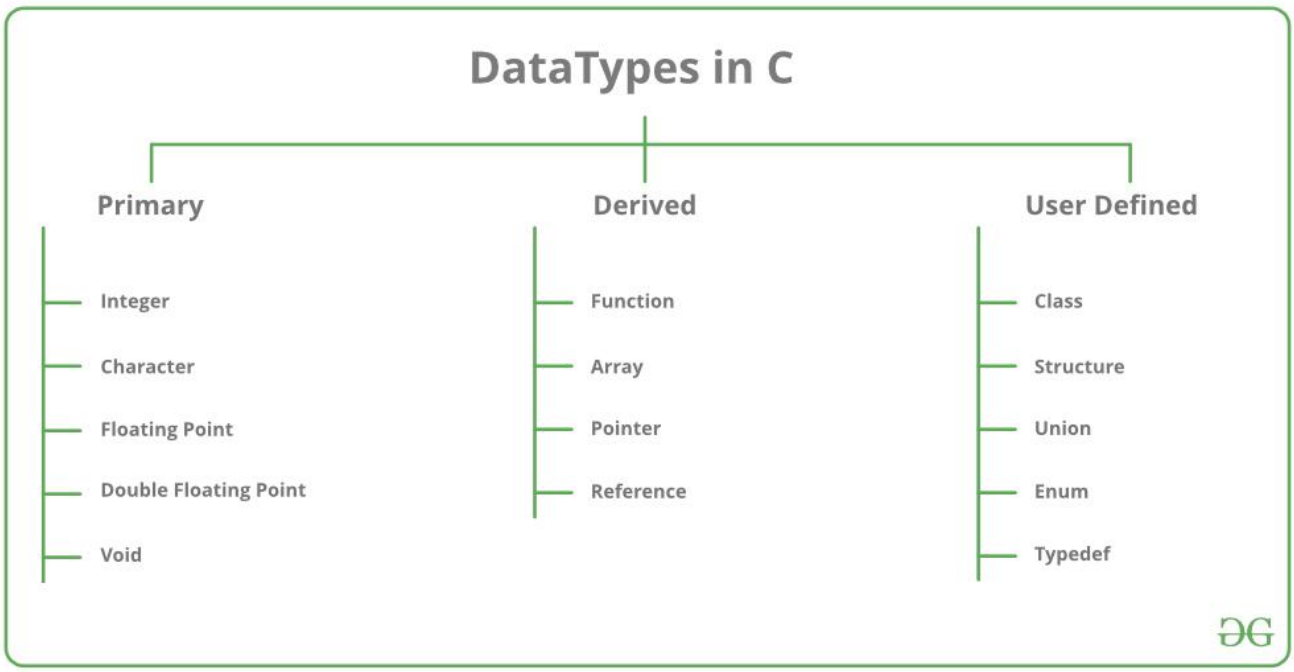
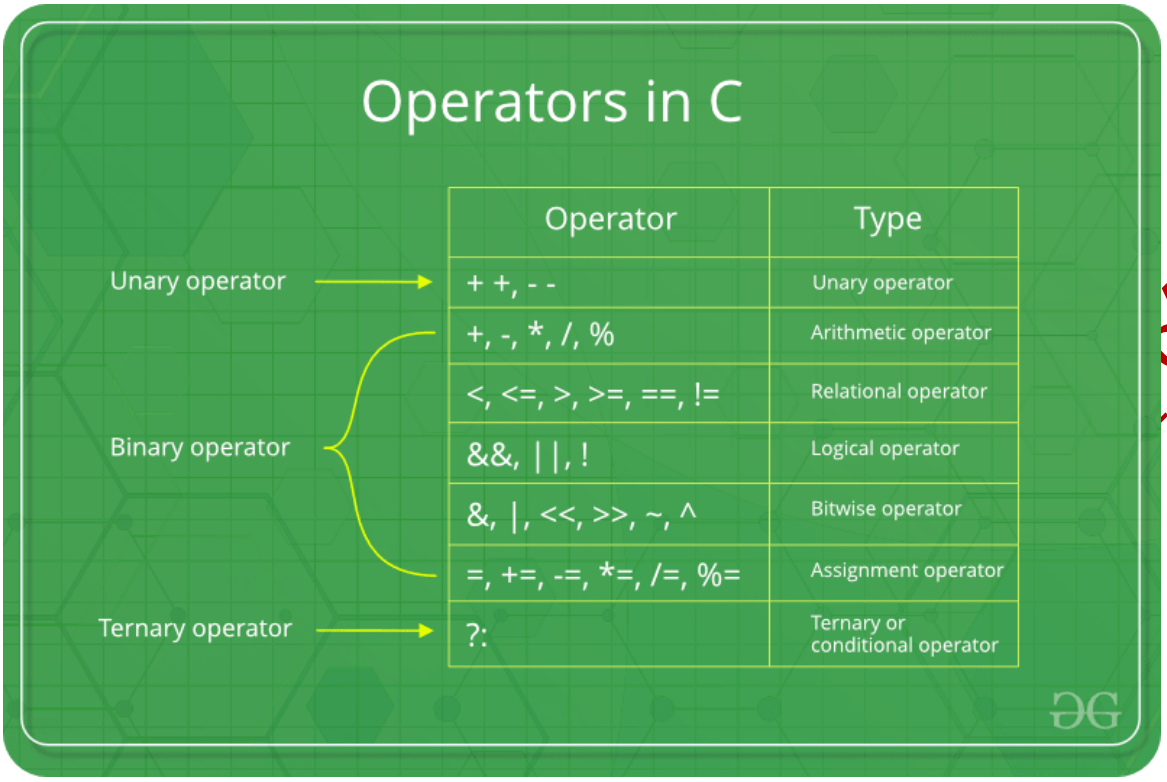
8. **Enlist different data types in C.**

Answer:



9. **Enlist different operators in C.**

Answer:



10. **Write the use of break, continue & go-to Statement.**

Answer:

a. **break Statement:**

Purpose: The break statement is used to terminate a loop or a switch statement prematurely.

b. **continue Statement:**

Purpose: The continue statement skips the current iteration of a loop and moves to the next iteration.

c. **goto Statement:**

Purpose: The goto statement transfers control to a labeled statement in the program, allowing

for non-linear flow control.

11. Explain of for Loop in C.

Answer:

The for loop in C is a control flow statement that allows code to be executed repeatedly based on a given condition. for loop consists of three parts: initialization, condition checking, and increment/decrement.

Syntax of for Loop

```
for (initialization; condition; increment/decrement) {
   // Code to be executed in each iteration
}
```

Components

a. **Initialization**:

This is executed once at the beginning of the loop. It is typically used to declare and initialize the loop control variable.

b. **Condition**:

This expression is evaluated before each iteration. If it evaluates to true (non-zero), the loop body executes. If it evaluates to false (zero), the loop terminates.

c. **Increment/Decrement**:

This expression is executed after each iteration of the loop body. It typically modifies the loop control variable to eventually terminate the loop.

12. What is type casting in C? Explain with an example.

Answer:

Type casting in C is the process of converting a variable from one data type to another. This is done either automatically (implicit casting) or manually by the programmer (explicit casting). For example, in the expression float result = (float)5 / 2;, the integer 5 is explicitly cast to a float to ensure floating-point division, giving the result 2.5 instead of 2 (integer division result).

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