

## **C programming assignment Theory question**

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Q1. What is the purpose of the main() function in a C program? Explain its significance.

= When a C program starts or runs the execution always starts from main () it is compulsory in the C programming language .

It's significance

- Without main () the program has no starting point so the compiler won't run.

Q2. Explain the difference between a variable declaration and a variable initialization in C.

= Declaration variable- It tells the type of variable and the name.

Initialization variable- It assigns an initial value to the variable at the declaration process.

Q4. What are the different data types available in C? Provide examples of each data type.

= **int** → integers → int age = 25;

**float** → decimal numbers → float pi = 3.14;

**double** → large decimal numbers → double g = 9.81;

**char** → single character → char grade = 'A';

**void** → no value → void function();

**Derived types:** arrays, pointers, structures, unions.

Q5. Explain the concept of type conversions in C. Provide examples of implicit and explicit type conversions.

=Implicit (Type Casting by compiler / type promotion):

int x = 10;

float y = x;

Explicit (Type Casting by programmer):

```
float a = 5.4;
```

```
int b = (int)a;
```

Q7. What is the role of the scanf() function in C? Provide an example of its usage.

= Used to take input from the user.

```
int height;
```

```
scanf("%d", &height);
```