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

--In all C programs, the starting point is the main() function. The execution of the program begins with the main. It regulates the flow of the program and gives back a value (typically 0) to the operating system.

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

Declaration: Tells the compiler the type and name of the variable. Example: `int x;`

Initialization: The value assigned to the variable when one declares it. Example: `int x = 10;`

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

`int` → integers → `int age = 20;`

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

`double` → large decimals → `double value = 19.99;`

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

`void` → no value → `void functionName();`

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

Implicit (Type Casting by compiler): Conversion happens automatically.

Example: `int x = 5; float y = x; // int to float`

Explicit (Type Casting by user): Done manually using cast operator.

Example: `double x = 10.5; int y = (int)x; // double to int`

Q6. What is the role of the scanf() function in C? Provide an example of its usage.

- To take input from the user.

`int age;`

```
printf("Enter your age: ");  
  
scanf("%d", &age);  
  
printf("You entered: %d\n", age);
```