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

The main purpose of main() function in C is to define start and finish point of all the programs where the execution takes place and it is given the responsibility to make all the processes run through it. It also sends also a value returned to the operating system either as a sign that the program has successfully run or as an error encountered.

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

The main difference between variable declaration and variable initialization is varriable declaration mean only declaring variable type without assigning value but varriable initialization means declaring the variable type with its assigned value.

variable declaration: int x;

variable initialization: int x=10;

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

Int : stores whole number. Int a=5;

Float: stores number with decimal. Float b=1.5;

Double:stores larger decimal numbers than float.double b= 4.67777777

Char : stores characters.char a="@"

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

Type conversion in C is altering the data type of a variable.

1. Implicit type conversion : When they are needed, type conversion is performed by the compiler. Example:

int x = 10;

float y = x; // automatic conversion converting int to float

2. Explicit type conversion: The programmer does their own conversion between types using casting.

Example: float num = 5.6;

int value = (int) num; //casts float to integer

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

The role of scanf() function in C is to input different data from user to certain varriable.

Example:

```c
#include <stdio.h>

int main(){
    float c,f;
    printf("Enter temperature in celcius");
    scanf("%f",&c);
    f=(c*9/5)+32;
```

```
    printf("Fahrenheit: %f\n",f);
    return 0;
}
```