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Assignment one

Q1.

Ans: The first thing of any C program is the main () routine. It is where program running starts and terminates. Compiling without main () will mean the compiler does not know how to commence instructions. It can also pass back a value to the operating system, typically 0 to fanfare accomplished execution.

Q2

Ans: Variable Declaration: instructs the compiler to reserve the memory name and type of the variable (reserves memory but does not initialise a value). `int x;`

Variable Initialization: Given an initial value to the variable on declaration or declaration afterward. `int x =10;`

Q4

- `int` → Stores integers. Example: `int age = 20;`
- `float` → Stores decimal values (single precision). Example: `float price = 10.5;`
- `double` → Stores decimal values (double precision). Example: `double pi = 3.14159;`
- `char` → Stores single characters. Example: `char grade = 'A';`
- `void` → Represents no value. Example: `void main()`

Q5

Ans: Implicit Conversion (Type Casting / Type Promotion): Done automatically by the compiler when assigning a smaller data type to a larger one.

Example:

```
int a = 5;

float b = a; // int is converted to float
```

- Explicit Conversion (Type Casting by User): Done manually by the programmer using casting.

Example:

```
float x = 5.75;

int y = (int)x; // float is explicitly converted to int
```

Q7

Ans: The scanf() function is used to take input from the user. It stores the entered value into the specified variable by using format specifiers.

Example:

```
#include <stdio.h>

int main() {

    int age;

    printf("Enter your age: ");

    scanf("%d", &age);

    printf("Your age is %d.\n", age);
```

```
    return 0;  
}
```