Q1:

The number is too long for the variable type to be an integer. The variable type should be changed to long integer and it will work correctly

```c
#include<stdio.h>

int main(){

    long int testInteger = 3000000000;
    printf("Number is %ld", testInteger);

    return 0;
}
```

```
/tmp/cgQHidbyxD.o
Number is 3000000000

=== Code Execution Successful ===
```

Q2:

```c
#include<stdio.h>

int main(){

    int num1, num2, why;
    printf("Enter num1: ");
    scanf("%d", &num1);
    printf("Enter num2: ");
    scanf("%d", &num2);
    why = num1;
    num1 = num2;
    num2 = why;
    printf("\n\nNum1 is %d,\nNum2 is %d", num1, num2);

    return 0;
}
```

```
/tmp/nOQToXdE43.o
Enter num1: 2
Enter num2: 3


Num1 is 3,
Num2 is 2

=== Code Execution Successful ===
```

Q3:

```c
#include<stdio.h>

int main(){
    float salary, taxrate, tax2, tax, remsal;

    printf("Enter salary: ");
    scanf("%f", &salary);
    printf("\nEnter tax rate (percentage): ");
    scanf("%f", &taxrate);

    tax2 = taxrate/100;
    tax = tax2*salary;
    remsal = salary-tax;

    printf("\n\nYour tax is: %.2f", tax);
    printf("\nYour remaining salary is: %.2f", remsal);

    if (remsal>50000) {
        printf("\nMashallah, Enjoy");
    } else {
        printf("\nWork harder brother");
    }

    return 0;
}
```

```
/tmp/RkWnYjHQTE.o
Enter salary: 100000

Enter tax rate (percentage): 20


Your tax is: 20000.00
Your remaining salary is: 80000.00
Mashallah, Enjoy

=== Code Execution Successful ===
```

Q4:

```c
#include<stdio.h>

int main(){
    int owd = 1207;
    int forave = 118;
    int backave = 123;
    float average, fuelcons1w, totalfuel, fuelconsforpri, fuelconsbackpri;

    printf("Enter fuel average: ");
    scanf("%f", &average);

    if (average>0) {
        fuelcons1w = owd/average;
        totalfuel = fuelcons1w*2;
        fuelconsforpri = fuelcons1w*forave;
        fuelconsbackpri = fuelcons1w*backave;

        printf("\nTotal fuel consumed is: %.2f", totalfuel);
        printf("\nFuel cost forwards is: %.2f", fuelconsforpri);
        printf("\nFuel cost backards is: %.2f", fuelconsbackpri);

    } else {
        printf("Invalid input");
    }
    return 0;
}
```

```
/tmp/ixlfkS2tAk.o
Enter fuel average: 15

Total fuel consumed is: 160.93
Fuel cost forwards is: 9495.07
Fuel cost backards is: 9897.40

=== Code Execution Successful ===
```

Q5:

```c
#include<stdio.h>

int main() {

    int x;
    float y;
    float z;
    float Interest;

    printf("Enter Principal Amount (Between 100 - 1000000 rupees only): ");
    scanf("%d",&x);

    if (x>=100 && x<=1000000) {
    printf("\nEnter Rate of Interest (Between 5-10%% only): ");
    scanf("%f",&y);

        if (y>=5 && y<=10) {
          printf("\nEnter Time Period (Between 1-10 years): ");
          scanf("%f",&z);

            if (z>=1 && z<=10) {
              Interest = x*y*z/100;
              printf("Your interest is: %.2f", Interest);
          }
            else {
              printf("Invalid Input");
          }
        } else {
          printf("Invalid Input");
        }
    } else {
        printf("Invalid Input");
    }
    return 0;
}
```

```
/tmp/v4WjGEVzUh.o
Enter Principal Amount (Between 100 - 1000000 rupees only): 10000

Enter Rate of Interest (Between 5-10% only): 5.5

Enter Time Period (Between 1-10 years): 3
Your interest is: 1650.00

=== Code Execution Successful ===
```

Q6:

```c
#include<stdio.h>

int main(){

    int x1 = 5, y1 = 4, x2 = 3, y2 = 2;
    int G1, G2;
    float Gradient;

    G1 = y2 - y1;
    G2 = x2 - x1;
    Gradient = G1/G2;

    printf("Gradient = %.3f", Gradient);

    return 0;
}
```

```
/tmp/gXq4wikAy3.o
Gradient = 1.000

=== Code Execution Successful ===
```