3 Exercises

1.Compile and run the following program, what is the result?

You need to explain the reason to a SA to pass the test.

```
#include <stdio.h>

int main()
{
    char a = 127;
    unsigned char b = 0xff;
    unsigned char c = 0;

    a++;
    b++;
    c--;
    printf("a=%d\nb=%d\nc=%d\n",a,b,c);

    return 0;
}
```

2. Run the following source code and explain the result.

You need to explain the reason to a SA to pass the test.

```
#include <iostream>
using namespace std;

int main()
{
    cout << fixed;
    float f1 = 1.0f;
    cout<<"f1 = "<<f1<<endl;

    float a = 0.1f;
    float f2 = a+a+a+a+a+a+a+a+a+a;
    cout<<"f2 = "<<f2<<endl;

    if(f1 == f2)
        cout << "f1 = f2" << endl;
    else
        cout << "f1 != f2" << endl;

    return 0;
}
```

3. Run the following source code and explain the result. Why the value of a and b are not equal? Explain the division operation with different types.

You need to explain the reason to a SA to pass the test.

```
#include <iostream>
using namespace std;

int main()
{
    int a, b;
    double c, d;

    a = 19.99 + 21.99;
    b = (int)19.99 + (int)21.99;
    c = 23 / 8;
    d = 23 / 8.0;

    cout << "a = " << a << endl;
    cout << "b = " << b << endl;
    cout << "c = " << c << endl;
    cout << "d = " << d << endl;
    cout << "0/0= " << 0/0 << endl;

    return 0;

}
```

4. Write a .**C** program that asks the user to enter an integer value, a character, and a float value and then print them out. A sample run should look like this:

You should use **scanf** and **printf** functions for input and output.

```
Please input  a character :
T
Please input an integer:
45
Please input  a float:
89.3
The variables you entered were:
The character is:T
The integer is:45
The float is 89.300003
```

What happens when you are prompted to enter an integer, but you enter a float?