Find the 2 bugs in the following code:

```cpp
int main()
{
    float temps={75.6, 60.5, 92.3};

    // loop through all elements of temps
    int i;
    do {
        cout << temps[i] << endl;
    } while (i<3);

    return 0;
}
```

Find the 2 bugs in the following code:

```cpp
bool myFunction(int x);

int main()
{
    int a=42
    if (myFunction(a))
        cout << "Hello!\n";
    else
        cout << "Goodbye!\n";

    return 0;
}
```

// myFunction will return true only if input is even

```cpp
bool myFunction(int x)
{
    bool answer;
    if (x%2==0)
        answer=true;
    else
        answer=false;
}
```

int a=42 should have ; at the end
myFunction should end with the statement: return answer;

Presuming the bugs are fixed in the program, suggest an alternative name for myFunction.
What is the output of the following code (what is printed to the screen):

```cpp
char myFunction2(int b);

int main()
{
    char j;
    int x=2;

    j=myFunction2(x);
    cout << j << "\t" << x <<endl;
    return 0;
}
```

```cpp
char myFunction2(int b)
{
    switch(b) {
        case 1:
            return 'v';
        case 2:
            return 'p';
        case 3:
            return 'o';
    }
    return 'd';
}
```

What is the output of the following code (what is printed to the screen):

```cpp
int main()
{
    int b[5];

    for(int i=0; i<5; i++)
        b[i]=3*i;

    for(int n=4; n>=0; n--)
        cout << b[n] << " ";

    cout << endl;
    return 0;
}
```

Output: 12 9 6 3 0
What is the output of the following code (what is printed to the screen):

```cpp
void myFunction3(float num1, float &num2);

int main()
{
    float a=3.141, b=-2.718;
    myFunction3(a,b);
    cout << a << " " << b;
    return 0;
}

void myFunction3(float num1, float &num2)
{
    float r=num1;
    num1=num2;
    num2=r;
}
```

What is the output of the following code (what is printed to the screen):

```cpp
int main()
{
    int b = 2;
    while(b<20)
    {
        cout << b << endl;
        b*=3;
    }
    return 0;
}
```

Write a recursive function to produce the same output as the above while loop.

```cpp
void recursiveFunction(int b)
{
    if(b>=20)
        return;
    else
    {
        cout << b << endl;
        recursiveFunction(b*3);
    }
    return;
}
List two escape sequences:

List two code libraries we have used over the semester (e.g., to define `cout` or `pow`).

What is the output of the following code (what is printed to the screen):

```cpp
int main()
{
    float b[4] = {2.5, -4, 0.2, 3};
    int d = b[2], p;
    p = b[3];
    p %= 6;
    cout << p << b[1] << " " << d << endl;
    return 0;
}
```

3 - 4 0

The following code does not follow the programmer’s intent. Explain the programmer’s intent (as conveyed by the format of the code) and how to edit the code to follow the intended action.

```cpp
int main()
{
    int a;
    cout << "Give me a number: ";
    cin >> a;
    if (a % 10 == 0)
    {
        cout << "I like multiples of 10.\n";
    }
    else
    {
        cout << "I do not like that number. Please enter another number: ";
        cin >> a;
        cout << "Thanks for entering another number.\n";
    }
    endl;
}
```
We have a program in which we define the class `Student`:
```cpp
class Student
{
    public:
        void setInformation(string inName, char inCampus, int inCredits);
        string getName(); // returns name
        char getCampus(); // returns campus
        int getCredits(); // returns number of credits completed
    private:
        string name;
        char campus;
        int creditsCompleted;
}
```

What C++ statement (inside `int main`) will declare a name `Student` object assigned to the variable `name` Charlie?

What member functions of `Student` are accessor functions?
`getName, getCampus, and getCredits`

Let us say we have successfully initialized Charlie's member values, including setting Charlie's campus to the letter R (for Rose Hill). What happens when we run the following statement:
```cpp
cout << Charlie.campus << endl;
```

Write the function definition for the `setInformation` function for the class `Student`.

What types of input values would make the following expressions true:

*Example expression:*
```cpp
r>4 && r<12  (where r is int)
```

*Example answer:*
The expression will be true when `r` is between 5 and 11, inclusive; otherwise it will be false.

```cpp
!(r>8)  (where r is int)
```

```cpp
p=='z' || p=='q' && p=='m'  (where p is char)
```

Only if the variable `p` is the letter 'z'. `(p=='q' && p=='m')` will only be true if `p` is equal to both 'q' and 'm' simultaneously, which is impossible.

```cpp
t<15 || t>-4  (where t is float)
```