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

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;
}


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;
}
```

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

```
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):

```
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.

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;
}
```


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 penguin

```
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 Student object assigned to the variable name Charlie?

What member functions of Student are accessor functions?

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:
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:
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.

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

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

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