



1) Briefly explain what a compiler does.

2) Briefly describe the differences between objects and classes.

Indicate the output of the following program:

```
#include <iostream>
2 #include <string>

4 using namespace std;

6 int main()
  {
8   int i = 5;
    int j = 2;
10  double x = 3.2;
    double y = 5.0;
12  string s = "Hello";
    string t = "Goodbye";

14

    cout << i;
16  cout << x*j << "\n";
    cout << s << s.size() << "\n";
18  i = i%j;
    cout << i << "\n";
20  ++i;
    cout << i << "t\n" << t;
22  x += y;
    j = 7/3;
24  cout << x << "\n" << j;

26  return 0;
  }
```



An angle is considered **acute** if it is less than 90 degrees, **obtuse** if it is greater than 90 degrees, and a **right angle** if it is equal to 90 degrees. Using this information, write a `o++` program that accepts an angle, in degrees, and displays the type of angle corresponding to the degrees entered.

Suppose three MSOE students are given a set of 45 programs to write as a team. The team decides to draw straws to decide how many programs each team member will write. Each straw has a number on it. The number on each straw indicates the number of programs that the student who draws it is required to write. In addition, it indicates the number of comments the student must include in each program they write. For example, if a student draws a straw with the number 17 on it, they are required to write 17 programs with 17 comments in each program.

Write a program that displays all of the number combinations that will result in the correct number of programs being written.

Indicate what will be displayed by the following program:

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

4 int quiz6a(int& num1, int num2);
  int quiz6b(int nm1, int& nm2);

6
  int main()
8 {
    int i = 3;
10   int j = 5;
    cout << quiz6a(i, 5) << endl;
12   cout << quiz6b(3, j) << endl;
    cout << quiz6a(j, quiz6b(i, i)) << endl;
14   return 0;
  }

16
  int quiz6a(int& num1, int num2)
18 {
    num1++;
20   num2--;
    cout << num1 << ' ' << num2 << endl;
22   return 0;
  }

24
  int quiz6b(int nm1, int& nm2)
26 {
    nm1+1;
28   nm2-2;
    cout << nm1 << ' ' << nm2 << endl;
30   return nm1+nm2;
  }
```

Quizzes



Name:

Briefly describe the differences between an array and a *vector*.



Write a function that accepts a **vector** of **strings** as a parameter and returns the average length of the **strings** in the **vector**.