CENG241 Labwork 4

1. Write a C++ class named **Calculator** that has two integer (operands), one string (operator), one double (result) variables and a **run()** function. You must create a Calculator object in your main function and enter a sentence describing a basic mathematical operation (e.g. add 7 to 20, multiply 5 with 4, etc) in main function. Your program must assign values from this sentence into member variables of your Calculator object and run the run() function, which will execute the proper operation and print the result on screen.

```
Enter your operation: subtract 4 from 7
Result is: 3
Enter your operation: divide 55 to 6
Result is: 9.16667
. . .
```

2. Write a C++ program to calculate salary bonuses for employees according to years they have worked. In order to do so, write a class named **Employee** that has one string (name), one integer (employed years), two doubles (salary and bonus) variables and **calculateBonus()** and **print()** functions. Your class should also have set functions for name, salary and years variables (e.g. **void setName(string)**). Create an Employee array of n (n = your choice) objects in main function, read their information in temporary variables in main function, pass these information to the objects via set functions and call calculateBonus() function, which calculates bonus according to:

$$bonus = \begin{cases} 0\%, & \text{years} \leq 5 \\ 5\%, & 5 < \text{years} \leq 10 \\ 10\% & 10 < \text{years} \leq 15 \\ 15\% & 15 < \text{years} \leq 20 \\ 20\% & 20 < \text{years} \end{cases}$$

Finally, print a neatly aligned table by calling print() function for each employee.

```
Enter employee name, employed years and salary: Mark 8 9500
Enter employee name, employed years and salary: Harrison 4 5000
Enter employee name, employed years and salary: Carrie 12 11500
. . .

Name      Years     Salary    Bonus
Mark      8         9500      475
Harrison  4         5000      0
Carrie    12        11500     1150
. . .
```