Dæmatímaverkefni 9 – Lab 9

Verkefni 1 / Project 1

Skrifið klasann `Circle` sem hefur private meðlimabreytu fyrir radius. Útfærið þau meðlimaföll sem eru nauðsynleg til að eftirfarandi forrit virki: / *Implement the class* `Circle` *which has a private member variable for radius. Implement the member functions needed for the following program to run:*

```
void circleInfo(Circle& circle) {
    cout << "Area: " << circle.area() << endl;
    cout << "Perimeter: " << circle.perimeter() << endl;
}

int main()
{
    double radius;

    cout << "Radius of circle: ";
    cin >> radius;

    Circle circle(radius);
    circleInfo(circle);
    circle.setRadius(circle.getRadius() + 1.0);
    circleInfo(circle);

    return 0;
}
```

Notið fastann PI = 3.14159 í skilgreiningu á klasanum `Circle` / *Use the constant PI = 3.14159 in your definition of the class* `Circle`.

Example:

```
Radius of circle: 3.0
Area: 28.2743
Perimeter: 18.8495
Area: 50.2654
Perimeter: 25.1327
```

Verkefni 2 / Project 2

Skrifið klasann `Sales` sem hefur private meðlimabreytu af taginu `vector<double>`, sem geymir sölutölur. Útfærið þau föll sem eru nauðsynleg til að eftirfarandi forrit virki: / *Implement the class `Sales` which has a private member variable of type vector<double> which contains sales data. Implement the member functions needed for the following program to run:*

```
int main()
{
    vector<double> data;
    readSales(data);
    Sales sales(data);

    cout.setf(ios::fixed);
    cout.setf(ios::showpoint);
    cout.precision(2);

    cout << "Average sales: " << sales.getAverage() << endl;
    sales.addSales(78.5);
    cout << "Average sales: " << sales.getAverage() << endl;

    return 0;
}
```

Til viðbótar við meðlimaföllin í `Sales` klasanum þurfið þið líka að útfæra fallið `readSales()` sem les gögn úr skránni `sales.dat` inn í vektor / *In addition to the member functions in the `Sales` class, you need to implement the function `readSales()` which reads data from the file `sales.dat` into a vector.*

Example 1:
Given the following contents of the input file sales.dat ...

```
128.4
298.2
10.9
835.6
45.7
99.9
101.5
78.3
```

... the program writes out:

```
Average sales: 199.81
Average sales: 186.33
```