



ADNAN MENDERES UNIVERSITY

CSE 203 Object-Oriented Programming

Lab 07

- You should submit **ONLY solutions of Homework**. Submit **whole java project file in zipped format** and named project file as *studentNo_NameSurname_AssignmentX*. X is the number of Lab, for this lab: Assignment7.
- Do your homeworks in **ECLIPSE IDE**.
- Do not use Turkish Characters(ç,ğ,ı,ö,ş,ü) for naming project, methods, classes.
- Late submissions are not allowed.
- You should do homework **YOURSELF**. Group working is not allowed.
- Copy homework will be evaluated as 0.
- **DO NOT upload a screenshot or something else.**
- Use Google Classroom for your questions. Do not send private messages.

HOMEWORK (Abstract Class-Interface)

- 1- Design an interface named **Colorable** with a **void** method named **howToColor()**. Every class of a colorable object must implement the **Colorable** interface.
- 2- Design a abstract class named **Square** that extends **GeometricObject** and implements **Colorable**. Implement **howToColor** to display the message **Color all four sides**.
- 3- Design a class named **Circle** that extends **GeometricObject**. Create necessary data fields, constructors, getter setters and methods.
- 4- Design a class named **Rectangle** that extends **GeometricObject**. Create necessary data fields, constructors, getter setters and methods.
- 5- Write a test program (**with main method**) that creates an array of five **GeometricObject**. For each object in the array, display when it is created and its area and invoke its **howToColor** method if it is colorable.

Note: You need to override **toString()**, **getPerimeter()**, **getArea()** and **howToColor()** methods. **GeometricObject** should be abstract class and contains when the object is created (date of creation). (You may use previously created **GeometricObject** class in Lab6, perform necessary updates on it.)

Sample Run:

ADNAN MENDERES UNIVERSITY

CSE 203 Object-Oriented Programming

```
[Square] created on Wed Dec 11 10:51:28 EET 2019
color: white and filled: false
side: 2.0
Area of object is 4.0
Color all four sides
[Circle] created on Wed Dec 11 10:51:28 EET 2019
color: white and filled: false
radius = 5.0
Area of object is 78.53981633974483
[Square] created on Wed Dec 11 10:51:28 EET 2019
color: white and filled: false
side: 5.0
Area of object is 25.0
Color all four sides
[rectangle] created on Wed Dec 11 10:51:28 EET 2019
color: white and filled: false
width: 3.0 height: 4.0
Area of object is 12.0
[Square] created on Wed Dec 11 10:51:28 EET 2019
color: white and filled: false
side: 4.5
Area of object is 20.25
Color all four sides
```