



Academic Year	2022
Semester	<input checked="" type="checkbox"/> Fall <input type="checkbox"/> Winter <input type="checkbox"/> Summer
Course Code - Name	CSCI 2010U – Data Structures
Instructor	Dr. Razi Iqbal
Assessment	Exercise 1

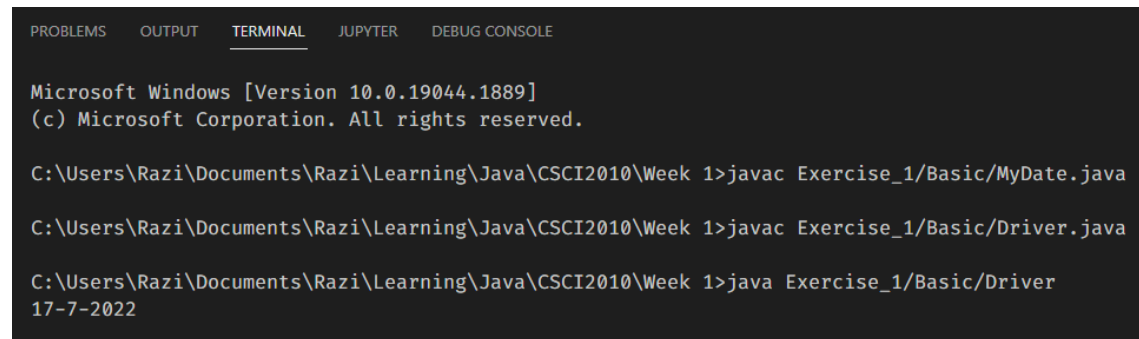
Question 1 (Basic)

This exercise tests your knowledge of basic Java operations.

You are required to create a class called `MyDate` that includes three pieces of information as data members—a month (type `int`), a day (type `int`) and a year (type `int`). Your class should have a `public void setDate(int day, int month, int year)` method that takes three parameters to initialize the three data members. For the purpose of this exercise, assume that the values provided for the year, month and day are correct. Your program should also have a `public String toString()` method that returns a string in day-month-year format as shown in the screenshot below.

`MyDate` should not have a main method. Create a new class called `Driver` in a `Driver.java` file that contains the `main` method. Set the values of Date using `setDate` method and call `toString` method in the `main` method to show the result on the console.

Below is the screenshot of the expected output of this program:



```
PROBLEMS  OUTPUT  TERMINAL  JUPYTER  DEBUG CONSOLE

Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>javac Exercise_1/Basic/MyDate.java

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>javac Exercise_1/Basic/Driver.java

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>java Exercise_1/Basic/Driver
17-7-2022
```

Try to run the program using commands in terminal to get more practice.

Question 2 (Intermediate)

This exercise tests your knowledge of basic Java operations.

You are required to write a Java program in which you are required to create two different classes, `Circle` and `Square`. Both `Circle` and `Square` should have parameterized constructors that take radius and side as parameter respectively for both the classes. Create objects of both the classes using parameterized constructors in the `main` method which will be part of `Driver.java`. Besides the `main` method, `Driver.java` should have a `public static void calculateArea(Square square, Circle circle)` method that takes objects of both square and circle as parameters and calculate the area of both. The objects passed to this method are the objects created in the `main` method and you can call this method in the `main` method to calculate and display the area of both `Circle` and `Square`.

Below is the screenshot of the expected output of this program:



```
PROBLEMS  OUTPUT  TERMINAL  JUPYTER  DEBUG CONSOLE

Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>javac Exercise_1/Intermediate/Circle.java

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>javac Exercise_1/Intermediate/Square.java

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>javac Exercise_1/Intermediate/Driver.java

C:\Users\Razi\Documents\Razi\Learning\Java\CSCI2010\Week 1>java Exercise_1/Intermediate/Driver
Area of Circle: 95.03317777109125
Area of Square: 30.25
```

Try to run the program using commands in terminal to get more practice.
