OBJECT-ORIENTED PROGRAMMING (CSF3043)

K1

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LAB MODULE: 3

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```java
/*
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 */
package employee;

/**
 *
 * ARUN MUGILAN A/L SARGUNAN 563746
 */
public class Employee {

    private String employeeid;
    private String name;
    Date    hiredate ;
    public Employee (String employeeid, String name, Date hiredate){
        setEmployeeid(employeeid);
        setName(name);
        setHiredate(hiredate);
    }
    public void setEmployeeid (String employeeid){
        this.employeeid = employeeid;
    }
    public void setName (String name){
        this.name = name;
    }
    public void setHiredate (Date hiredate){
        this.hiredate = hiredate;
    }
    public String getEmployeeid(){
        return (this.employeeid);
    }
    public String getName(){
        return (this.name);
    }
    public Date getHiredate(){
        return (this.hiredate);
    }

    public String toString(){
        return String.format("Employee ID: %s, Name: %s, Hired Date: %s",getEmployeeid(),getName(),getHiredate());
    }

}
```

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```java
/**
 *
 * ARUN MUGILAN A/L SARGUNAN 563746
 */
public class Date {
    private int month;
    private int day;
    private int year;

    public Date( int theMonth, int theDay, int theYear ){
        month = checkMonth(theMonth);
        year = checkYear(theYear);
        day = checkDay(theDay);

        System.out.printf("Date object constructor for date %s\n", toString());
    }

    private int checkYear(int testYear){
        if (testYear >0)
            return testYear;
        else{
            System.out.printf(" Invalid year (%d)set to 1.\n", testYear);
            return 1;
        }
    }

    private int checkMonth(int testMonth){
        if (testMonth >0 && testMonth<=12)
            return testMonth;
        else{
            System.out.printf(" Invalid month (%d)set to 1.\n", testMonth);
            return 1;
        }
    }

    private int checkDay( int testDay){
        int daysPerMonth[]= {0,31,28,31,30,31,30,31,31,30,31,30,31};
        if (testDay>0 && testDay<= daysPerMonth[month])
            return testDay;
        if (month==2 && testDay==29&& ( year%400==0 || (year%4==0 && year%100!=0)))
            return testDay;
        System.out.printf("invalid day (%d) set to1.\n", testDay);
        return 1;
    }

    public String toString(){
        return String.format("%d/%d/%d", month, day, year);
    }
}
```
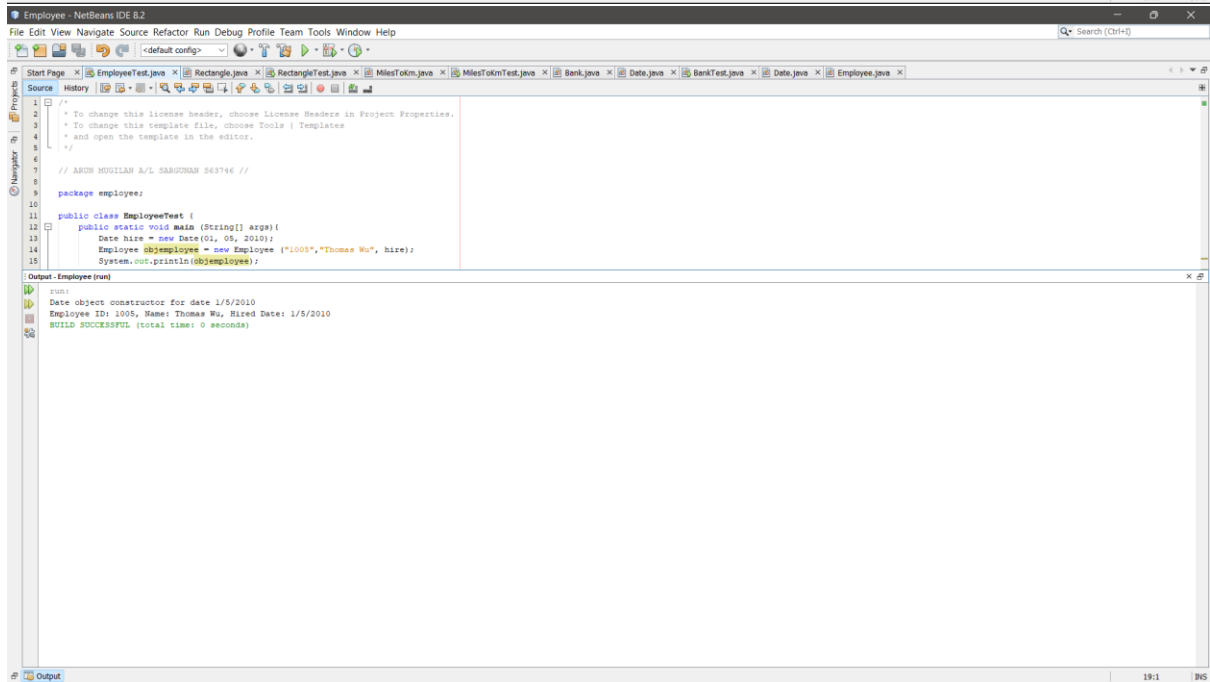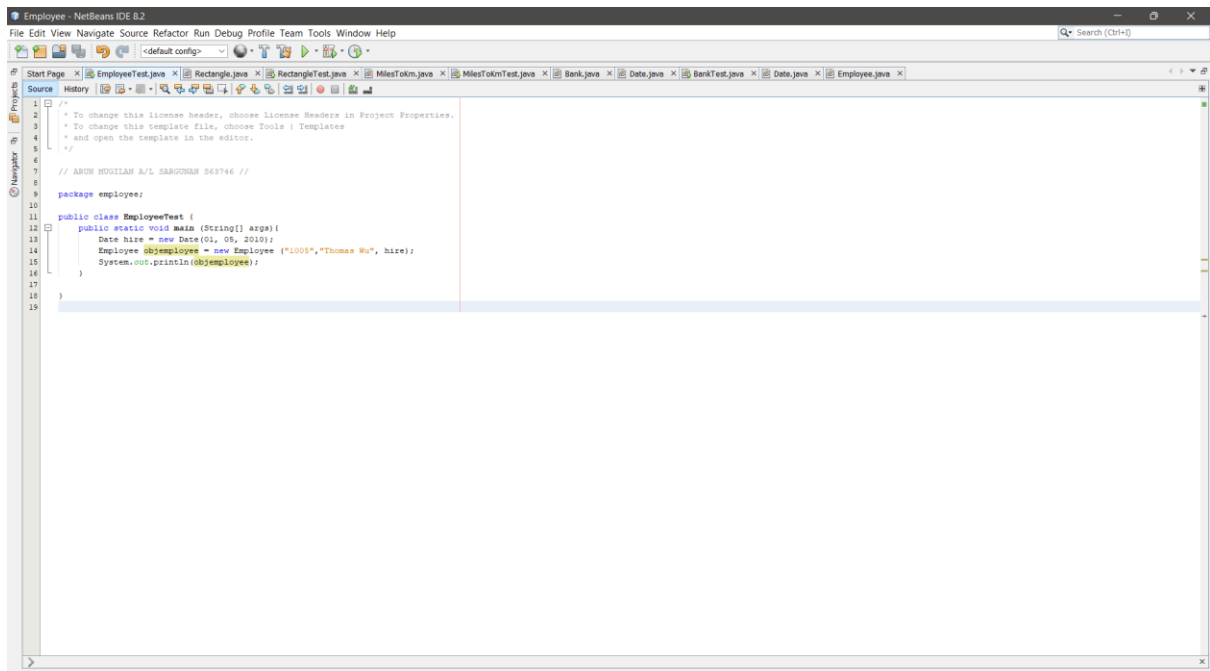
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```java
/*
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 */

// ARUN MUGILAN A/L SARGUNAN 563746 //

package employee;

public class EmployeeTest {
    public static void main (String[] args){
        Date hire = new Date(01, 05, 2010);
        Employee objemployee = new Employee ("1005","Thomas Wu", hire);
        System.out.println(objemployee);
    }

}
```

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```java
/*
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 */

// ARUN MUGILAN A/L SARGUNAN 563746 //

package employee;

public class EmployeeTest {
    public static void main (String[] args){
        Date hire = new Date(01, 05, 2010);
        Employee objemployee = new Employee ("1005","Thomas Wu", hire);
        System.out.println(objemployee);
```

Output - Employee (run)

```
run:
Date object constructor for date 1/5/2010
Employee ID: 1005, Name: Thomas Wu, Hired Date: 1/5/2010
BUILD SUCCESSFUL (total time: 0 seconds)
```

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```java
/*
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 */
package rectangle;

/**
 *
 * ARUN MUGILAN A/L SARGUNAN 563746
 */
public class Rectangle {

    private double height;
    private double width;
    double area;

    public Rectangle (double height, double length){
        setHeight(height);
        setWidth(length);
    }

    public double getHeight() {
        return height;
    }

    public void setHeight(double height) {
        this.height = height;
    }

    public double getWidth() {
        return width;
    }

    public void setWidth(double width) {
        this.width = width;
    }

    public String toString(){
        return String.format("Height: %s\nLength: %s\nArea: %s\n", getHeight(), getWidth(), area());
    }

    public double area(){
        area = width*height;
        return (this.area);
    }
```

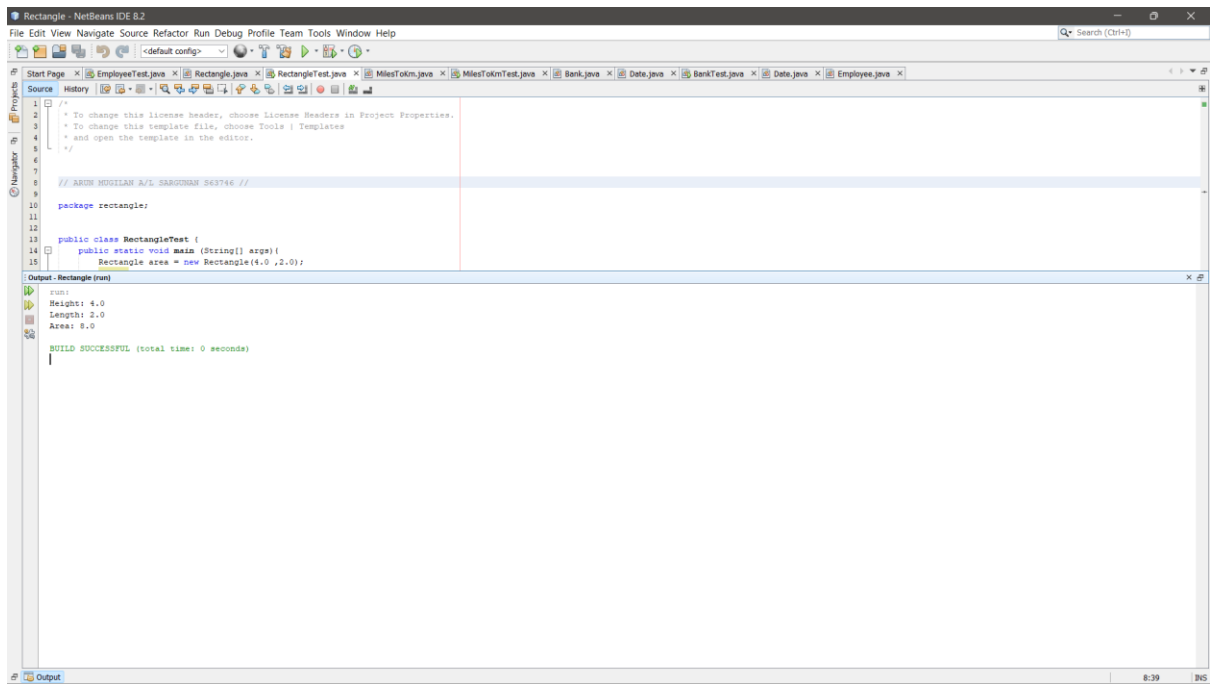C:\Users\USER\OneDrive\Documents\UMT\MOBILE COMPUTING\CSF3043\LAB\LAB 3\Rectangle\src\rectangle\RectangleTest.java

```java
/*
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 */

// ARUN MUGILAN A/L SARGUNAN 563746 //

package rectangle;

public class RectangleTest {
    public static void main (String[] args){
        Rectangle area = new Rectangle(4.0 ,2.0);
        System.out.println(area);
    }

}
```

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Source History

```java
/*
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 */


// ARUN MUGILAN A/L SARGUNAN 563746 //

package rectangle;


public class RectangleTest {
    public static void main (String[] args){
        Rectangle area = new Rectangle(4.0 ,2.0);
```

Output - Rectangle (run)

```
run:
Height: 4.0
Length: 2.0
Area: 8.0

BUILD SUCCESSFUL (total time: 0 seconds)
```

Output

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```java
package milestokm;

/**
 *
 * ARUN MUGILAN A/L SARGUNAN 563746
 */
public class MilesToKm {

    private double miles;
    double km;

    public MilesToKm (double miles){
        setMiles(miles);
    }

    public double getMiles() {
        return miles;
    }

    public void setMiles(double miles) {
        this.miles = miles;
    }

    public double km() {
        double km = miles * 1.609344;
        return km;
    }

}
```

```java
package milestokm;

/**
 *
 * ARUN MUGILAN A/L SARGUNAN 563746
 */
import java.util.Scanner;
public class MilesToKmTest {
    public static void main (String[] args){
        Scanner a = new Scanner(System.in);
        System.out.print ("Please insert the distance in miles : ");
        double miles = a.nextDouble();
        MilesToKm obj1 = new MilesToKm (miles);
        System.out.println(miles + " miles in kilometer is :  " +obj1.km() + "km");
    }

}
```

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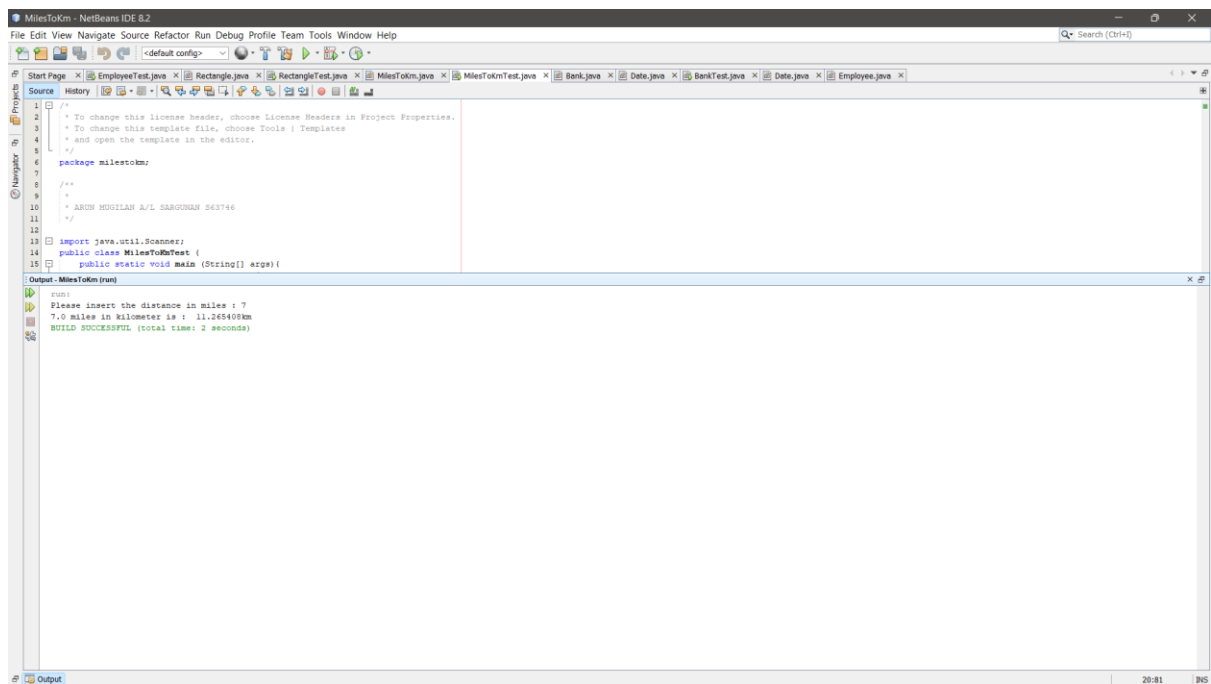
Source | History

```java
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package milestokm;

/**
 *
 * ARUN MUGILAN A/L SARGUNAN 563746
 */

import java.util.Scanner;
public class MilesToKmTest {
    public static void main (String[] args){
```

Output - MilesToKm (run)

```
run:
Please insert the distance in miles : 7
7.0 miles in kilometer is :  11.265408km
BUILD SUCCESSFUL (total time: 2 seconds)
```

Output

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```java
/**
 *
 * ARUNMUGILAN A/L SARGUNAN 563746
 */
public class Bank {

    private int accNum;
    private String Name;
    private String Type;
    private String date;

    public Bank (int accNum, String Name){
        setAccNum(accNum);
        setName(Name);
        System.out.print("The transaction for account \""+getAccNum()+"\"");
        System.out.print(", account holder = \""+getName()+"\"");
    }

    public Bank (int accNum, String Name, String date){
        setAccNum(accNum);
        setName(Name);
        setDate(date);
        System.out.print("The transaction for account \""+getAccNum()+"\"");
        System.out.print(", account holder = \""+getName()+"\"");
        System.out.print(" and transaction date = \""+getDate()+"\"\n");
    }

    public void setAccNum (int accNum){
        this.accNum = accNum;
    }
    public void setName (String accName){
        this.Name = accName;
    }
    public void setDate(String date){
        this.date = date;
    }
    public int getAccNum(){
        return(this.accNum);
    }
    public String getName(){
        return(this.Name);
    }
    public String getDate(){
        return(this.date);
    }

}
```

bank.Bank > Bank >

Output

26:37   INS

```java
 *
 * ARUNMUGILAN A/L SARGUNAN 563746
 */
public class Date {
    private int month;
    private int day;
    private int year;

    public Date( int theMonth, int theDay, int theYear ){
        month = checkMonth(theMonth);
        year = checkYear(theYear);
        day = checkDay(theDay);

        System.out.printf("Date object constructor for date %s\n", toString());
    }

    private int checkYear(int testYear){
        if (testYear >0)
            return testYear;
        else{
            System.out.printf(" Invalid year (%d)set to 1.\n", testYear);
            return 1;
        }
    }

    private int checkMonth(int testMonth){
        if (testMonth >0 && testMonth<=12)
            return testMonth;
        else{
            System.out.printf(" Invalid month (%d)set to 1.\n", testMonth);
            return 1;
        }
    }

    private int checkDay( int testDay){
        int daysPerMonth[]= {0,31,28,31,30,31,30,31,31,30,31,30,31};
        if (testDay>0 && testDay<= daysPerMonth[month])
            return testDay;
        if (month==2 && testDay==29&& ( year%400==0 || (year%4==0 && year%100!=0)))
            return testDay;
        System.out.printf("invalid day (%d) set to1.\n", testDay);
        return 1;
    }

    public String toString(){
        return String.format("%d/%d/%d", month, day, year);
    }

    }
}
```

bank.Date > checkMonth > if (testMonth > 0 && testMonth <= 12) else >

Output

40:10   INS

```java
/*
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 */
package bank;

/**
 *
 * @author USER
 */
public class BankTest {
    public static void main(String[]args){
        Bank obj1= new Bank(10021, "Abdul Rahman");
        System.out.println();
        Bank obj2 = new Bank(10021,"Abdul Rahman","12 August 2011");
    }
}
```

bank.BankTest   main

Output

13:43/1:2   INS

```java
/*
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 */
package bank;

/**
 *
 * @author USER
 */
public class BankTest {
    public static void main(String[]args){
        Bank obj1= new Bank(10021, "Abdul Rahman");
        System.out.println();
```

Output - Bank (run)

```
run:
The transaction for account "10021", account holder = "Abdul Rahman"
The transaction for account "10021", account holder = "Abdul Rahman" and transaction date = "12 August 2011"
BUILD SUCCESSFUL (total time: 0 seconds)
```

Output

13:43/1:2   INS