الجامعة السعودية الالكترونية Saudi Electronic University 2011 1432	Kingdom of Saudi Arabia Ministry of Higher Education Saudi Electronic University (055) College of Computing and Informatics

Midterm Examination Cover Sheet

Second Semester: 1436 – 1437 / 2014 – 2015

Course Code	**CS140**	Exam Date	
Course Name	**Computer Programming – I**	Instructor Name	
Exam Duration	**60 Minutes only**	Number of pages	**05**
Student Name		Student ID	

Exam Guidelines

- **Mobile phones are not permitted**
- **Calculators are permitted**

Marking Scheme

Questions	Score	Student Score
Part – 1	**10**	
Part – 2	**10**	
Part – 3	**05**	
Part – 4	**15**	
Part – 5	**10**	
Total	**50**	
Final Total	**25**	

(Read all the questions carefully and give answers. ALL THE BEST)

Part – 1

1. Private instance variables _____

   a) **can only be accessed by methods of the same class**

   b) cannot be accessed by methods of the same class

   c) can only be accessed by methods of a different class

   d) can only be accessed by the constructor of the class

2. Identifiers can be made up of letters, digits, and

   a) **$ and _** b) ? and %

   c) ! and @ d) && and *

3. Sequence of instructions that accesses the data of an object is called

   a) class **b) method**

   c) variable d) identifier

4. Which method does not change the state of the implicit parameter?

   a) accessor b) mutator

   c) public d) successor

5. Java have the collection of classes with a related purpose is called

   a) interface **b) package**

   c) JVM d) container

6. An instance variable declaration must contain _____

   a) access specifier b) type of variable

   c) name of variable **d) all the above**

7. What is the output of Math.pow$(u, 2)/Math.pow(v, 2)/w * x + y\%z$

   (Assume u = 4, v = 2, w = 2, x = 4, y = 4 and z =2)

   a) 2.0 b) 4.0

   c) 8.0 d) error

8. A String s1 contains "welcome to SEU" and s2 = s1.substring (9, 14); What is the value of s2?

   a) SEU b) welcome

   c) to SEU **d) o SEU**

9. Which package is automatically imported in any java program?

   a) java.util b) java.system

   c) java.lang d) java.string

10. Which of the following is not a valid number literal?

    a) 2,000 b) 35

    c) 1E4 d) 6.500

Part – 2

Choose the most appropriate word to fill in the blanks. Only ONE word is correct.					
constructor	static	pseudo code	this	black box	encapsulation
type	cast	string	garbage collector	white box	identifier

1. **String** is a sequence of characters enclosed in double quotation marks.
2. An informal form of the algorithm is called **pseudo code.**
3. A **type** defines a set of values and the operations that can be carried out on the values.
4. **this** reference denotes the implicit parameter.
5. **Encapsulation** is the process of hiding object data and providing methods for data access.
6. In Java, the **garbage collector** periodically reclaims objects when they are no longer used.
7. A **static** method does not operate on an object.
8. **White box** testing takes internal structure into account when designing test.
9. A **constructor** initializes the instance variables.
10. **Cast** is used to convert from one data type in to other data type.

Part – 3

Choose the True / False for the following: (**write only True / False or "T" / "F"**)

SI.No.	Question	True / False
1	The name of the public class must match the name of the file containing the class.	**True**
2	Algorithm may contain the ambiguous steps.	**False**
3	Identifiers are case sensitive.	**True**
4	Primitive type variables and object variables both are same.	**False**
5	Private instance variables can only be accessed by methods of the same class.	**True**

Part – 4

1. Find the errors (5 Marks)

```
private static class helloworld
{          // 5 or more than that they found errors give full marks
public static void main( string[] aa)
{
int a; b; c;                // a  is declared in both int and double
double a;
c = a * * b;   // ** is not allowed
system.out.println(" The value of c is" , c); // "+" symbol  u have to use
}
}
```

2. What is the output of the following java code? (10 Marks)

```
public class SadishTest
{
 public static void main(String[] args)
 {
        double x = 25, y = 20, z = 30;
        boolean a,b,c;
          a = (x < y && y < z);
          b = (x < y || y < z);
          c = !(x < y);
        System.out.println("(x < y && y < z) is " + a );
        System.out.println("(x < y || y < z) is " + b );
        System.out.println("!(x < y) is " + c);
        System.out.println("(x + y < z) is " +(x + y < z));
        System.out.println("(x + y > z) is " + (x + y >z));
 }
}
```

// each answer 2 makrs

```
(x < y && y < z) is False
(x < y || y < z) is True
!(x < y) is True
(x + y < z) is False
(x + y > z) is True
```

Part – 5

1. Write the algorithm and java code to find the minimum among the three numbers.

Algorithm → 5 marks
Program → 5 Marks
(if students not write the full program, even they write the concept correctly, please consider)

If they written Algorithm, ie. How to compare the three variables then give 5 marks

```
import java.util.Scanner;
public class Sadishdecision {
        public static void main(String[] args)
        {
                int a,b,c;
                System.out.println(" Enter the value for a");
                Scanner in = new Scanner(System.in);
                a = in.nextInt();
                System.out.println(" Enter the value for b");
                Scanner in1 = new Scanner(System.in);
                b = in1.nextInt();
                System.out.println(" Enter the value for c");
                Scanner in2 = new Scanner(System.in);
                c = in2.nextInt();
// if they declare and define a, b and c values directly also like a=10, b=5, c =15
                System.out.println(" The values of a,b,c is"+ a + b + c);
```

// even if they write the below then please consider and give 5 marks

```
                if ((a<b) && (a<c))
                        System.out.println( " a is smallest");
                else
                        if ((b<a) && (b<c))
                                System.out.println( " b is smallest");
                        else
                                System.out.println( " c is smallest");
        }
}
```