

		<h1>King Saud University</h1> <p>College of Computer and Information Sciences Computer Science Department</p>	
		Course Code:	CSC 111
		Course Title:	Introduction to Programming
		Semester:	Fall 2019
		Exercises Cover Sheet:	Midterm 1 Exam (A)
		Duration: 90 min	
Student Name:			
Student ID:			
Student Section No.			
Tick the Relevant	Computer Science B.Sc. Program ABET Student Outcomes	Question No. Relevant Is Hyperlinked	Covering %
√	a) Apply knowledge of computing and mathematics appropriate to the discipline;	1,2	50%
	b) Analyze a problem, and identify and define the computing requirements appropriate to its solution;		
	c) Design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;		
	d) Function effectively on teams to accomplish a common goal;		
	e) Understanding of professional, ethical, legal, security, and social issues and responsibilities;		
	f) Communicate effectively with a range of audiences;		
	g) Analyze the local and global impact of computing on individuals, organizations and society;		
	h) Recognition of the need for, and an ability to engage in, continuing professional development;		
√	i) Use current techniques, skills, and tools necessary for computing practices.	1,2	50%
	j) Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;		
	k) Apply design and development principles in the construction of software systems of varying complexity;		

Question 1: (5 Marks)

Put your answers of question 1 (**multiple choice questions**) in the following table:

Question	1	2	3	4	5	6	7	8	9	10
Answer										

1) What is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args)
    {
        int a = 34, b = 21, c = a++ + ++b, d = --a + --b + c--;
        System.out.println("A" + a + "B" + b + "C" + c + "D" + d);
    }
}
```

a) A34B21C55D111 b) A33B21C55D111 c) A33B22C55D111 d) A34B22C55D111

2) What, if any, is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args)    {
        double a = 10.0; int b = 4;
        System.out.println((int)a/b);
    }
}
```

a) 2.0 b) 2.5 c) 2 d) Compilation error

3) What, if any, is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args)    {
        int m = 0;
        while(m++ < 1)
            System.out.print(m);
    }
}
```

a) 01 b) 1 c) 0 d) No output

4) What, if any, is the output for the following program?

```
public class CSC111Mid1Questions {
    public static voidmain(String[] args) {
        int a=1,b=2,c=3,d=4,e=5,f=6;
        double answer = a*((b*10)/d-c*(f%e));
        System.out.println(answer);
    } }
```

a) 2 b) 2.0 c) 3.0 d) Compilation error

5) What, if any, is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args) {
        String a = "about";
        int x = a.length();
        char b = a.charAt(x);
        System.out.println("B is " + b);
    }
}
```

- a) B is t b) B is b c) Runtime error d) Compilation error**

6) What, if any, is the output of the following program segment?

```
public class CSC111Mid1Questions {
    public static void main(String[] args) {
        boolean var1 = false;
        boolean var2 = true;
        if(var1==1)
            System.out.println(var1);
        else
            System.out.println(var2);
    }
}
```

- a) 0 b) true c) false d) Compilation error**

7) What is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args) {
        int x=8, y=0, z=1;
        if (x > 0 && y < 0){
            if(x==8)
                System.out.print("Yes");
            else if (z > 0)
                System.out.print ("No");
        }
        System.out.print("No Result");
    }
}
```

- a) Yes b) No Result c) YesNo Result d) No**

8) What, if any, the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args) {
        int n = 0, sum = 0;
        while (n <= 6)
            sum += n;
        System.out.println ("sum = " + sum);
    }
}
```

- a) sum = 21 b) sum = 0 c) sum = 21 d) infinite loop**

9) What is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args) {
        int x = 5;
        switch (x) {
            default:
                x = -1;
            case 3:
                x = 1;
                break;
            case 4:
                x = 2;
                break;
            case 2:
                x = 3;
        }
        System.out.println(x);
    }
}
```

- a) 3 b) 1 c) 2 d) -1

10) What is the output of the following program?

```
public class CSC111Mid1Questions {
    public static void main(String[] args) {
        int x = 100, y = 0;
        if(x > 10 || y++ > 0)
            x = 10;
        System.out.print("x=" + x + " , " + "y=" + y);
    }
}
```

- a) x=10,y=1 b) x=100,y=0 c) x=10,y=0 d) x=100,y=1

Question 2: (5 marks)

2.1) We want to display “Low” or “Medium” or “High” depending on the value of x based on the following table (1 mark):

Value of x	Output
Less than 30	Low
Greater than or equal 33 and less than 66	Medium
Greater than or equal	High

The following segment of code contains errors. Fix the errors by rewriting the right segment of code which produces the expected output given in the table above.

```
Scanner in=new Scanner(System.in);
int x = in.nextInt();
if(x<33)
    System.out.println("Low");
if(33<x<66)
    System.out.println("Medium");
else
    System.out.println("High");
```

Answer:

2.2) Write down the output of each of the following code segments: **(2 marks)**

Code	Output
<pre>int i = 3; while(i > 0) i--; System.out.print(i);</pre>	
<pre>int x = 5; while(x > 0) { if(x % 2 != 0) System.out.print(x); x--; }</pre>	
<pre>System.out.print("CSC111\\Midterm1\\n2019");</pre>	
<pre>String a = "csc111"; String b = "CSC111"; System.out.print(a.equals(b));</pre>	

2.3) Convert the following `if-else` statements to its equivalent `switch` statement? **(2 marks)**

```
Scanner in = new Scanner(System.in);
int x = in.nextInt();
int y = 0, z = 0;
if (x == 10){
    y = 1; z = 5;
}
else
    if (x == 15 || x == 20)
        y = 2;
    else
        y = 3;
```

Answer:

Result					
Question No.	Relevant Student Outcome	SO is Covered by %	Full Mark	Student Mark	Assessor's Feedback
1	a	50	5		
2	i	50	5		
Totals		100%	10		
I certify that the work contained within this assignment is all my own work and referenced where required. Student Signature: _____ Date: _____					Feedback Received: Student Signature: _____ Date: _____