Object Oriented Programming in Java Lab Sheet
II Year /I Part
Faculty: BCA

Lab sheet 2

Objectives:
1. Conversion and Casting
2. if statement and Relational Operators
3. if-else-if ladder and Logical Operators
4. Switch Statement
5. Looping Statement

Objective 1:

```java
package com.texas.lab1;

public class ConversionAndCastingObjective {

    public static void main(String[] args) {

        double dataDouble = 234.567;
        int dataInt = 1234;

        int dataIntNarrow = (int) dataDouble;
        float dataFloatNarrow = (float) dataDouble;
        int dataLongNarrow = (int) dataDouble;

        double dataDoubleWidenning = dataInt;
        float dataFloatWidenning = dataInt;
    }
}
```

Assignment:

1.0 Write a java program and take input from the user and perform different types of casting.

Objective 2:

```java
package com.texas.lab1;

import java.util.Scanner;

public class IfStatmentAndRelationalOperator {

    public static void main(String[] args) {

        int x, y = 0;
        System.out.println("Enter the value of x");
        Scanner scanner = new Scanner(System.in);
        x = scanner.nextInt();
```

```
        if (x < 0)
                y = -1;
        if (x == 0)
                y = 0;
        if (x > 0)
                y = 1;
        if (x != 10)
                y = 100;

        System.out.println("Value of Y is : " + y);
        scanner.close();
    }
}
```

Assignment:

2.0. Write a java program to take input from user and check whether given input number is even or odd.

Objective 3:

```
package com.texas.lab1;

public class IfElseIfLadderObjective {

    public static void main(String[] args) {

        int a = 10;
        int b = 0;

        if (a == b && a != 0) {
            System.out.println("Both are Equal");
        } else if (a > b && a>0) {
            System.out.println("A is greater");
        } else if (b > a) {
            System.out.println("B is greater.");
        } else {
            System.out.println("No condition matched.");
        }

    }
}
```

Assignment:

3.0 Write a java program to take three input numbers from the user and find the largest number.

Objective 4:

```java
package com.texas.lab1;

import java.util.Scanner;

public class SwitchStatmentObjective {

    public static void main(String[] args) {

        int quantity, totalCost;
        System.out.println("Hotel Menu");
        System.out.println("1. Momo");
        System.out.println("2. Chowmin");
        System.out.println("3. Pizza");

        System.out.println("Enter your choice");
        Scanner scanner = new Scanner(System.in);
        int choice = scanner.nextInt();

        switch (choice) {
        case 1:
            System.out.println("Enter Quantity");
            quantity = scanner.nextInt();
            totalCost = 150 * quantity;

            System.out.println("Unit Cost : " + 150);
            System.out.println("Total Momo Cost : " + totalCost);

            break;

        case 2:
            System.out.println("Enter Quantity");
            quantity = scanner.nextInt();
            totalCost = 100 * quantity;

            System.out.println("Unit Cost : " + 100);
            System.out.println("Total Chowmin Cost : " + totalCost);

            break;

        case 3:
            System.out.println("Enter Quantity");
            quantity = scanner.nextInt();
            totalCost = 500 * quantity;

            System.out.println("Unit Cost : " + 500);
            System.out.println("Total Pizza Cost : " + totalCost);

            break;

        default:
            System.out.println("Incorrect choice.");
        }

        scanner.close();
    }
}
```

Assignment:

4.0 Write a java program to find out the day of the week given the number [1 for Monday, 2 for Tuesday and so on].

Objective 5:

```java
package com.texas.lab1;

public class CompareQuestionsLAb {

    public static void main(String[] args) {

        int num = 1;
        System.out.println("Value of a is : "+num);

        num = num +1;
        System.out.println("Value of a is : "+num);


        num = num +1;
        System.out.println("Value of a is : "+num);

        num = num +1;
        System.out.println("Value of a is : "+num);

        num = num +1;
        System.out.println("Value of a is : "+num);
    }
}
```


Assignment:

5.0 Note the input code and output of above program and modify the above program as below note down the input
and output of modified program and discuss the difference between them.


```java
package com.texas.lab1;

public class CompareQuestionsLAb {

    public static void main(String[] args) {

        int num;
        for (num = 1; num < 6; num++) {
            System.out.println("Value of a is : " + num);
        }
    }
}
```


5.1. Find the sum of the series
    Sum = 1+3+5+7+ . . . . + n. where n is inputted by user.

5.2. Find the sum of the series
    Sum = 2+3+5+7+11+13 . . . . + n. where n is inputted by user.

5.3. Find the factorial of n number (use do-while, while).

Objective 5.1:

```java
package com.texas.lab1;

public class DisplayPattern {

    public static void main(String[] args) {

        for(int i=0;i<5;i++) {
            for(int j=0;j<=i;j++) {
                System.out.print(j+" ");
            }
            System.out.println("");
        }
    }
}
```

Assignment:

5.1.0. Modify the above program to get output as below:

```
1                        1 2 3 4 5 6
1 2                      1 2 3 4 5
1 2 3                    1 2 3 4
1 2 3 4                  1 2 3
1 2 3 4 5                1 2
                         1
```