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

Lab sheet 1

Objectives:

1. Execution of sample program.
2. Variables
3. User Input (Scanner)
4. Constant
5. Data Type and Declaration
6. Operators

Objective 1:

```
package com.texas.lab1;

public class Sample {

	public static void main(String[] args) {
		System.out.print("Welcome to Object Oriented Programming in Java.");
		System.out.print("Texas International College.");
	}
}
```

Assignment:

1.0. 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.

```
package com.texas.lab1;

public class Sample {

	public static void main(String[] args) {
		System.out.println("Welcome to Object Oriented Programming in Java.");
		System.out.println("Texas International College.");
	}
}
```

Objective 2:

```
package com.texas.lab1;

public class VariablesObjective {

	public static void main(String[] args) {

		int num1 = 10, num2 = 20;
		String firstName  = "Shankar", lastName = " Dahal";

		boolean booleanData = false;
		double doubleData = 12345.34567;
		float floatData = 234567.5678f;
		char charData = 'a';

		String fullName = firstName + lastName;
		int result = num1 + num2;

		System.out.println("FullName : "+fullName);
		System.out.println("Result : "+result);
	}
}
```

Assignment:

2.0. Modify the above program to display the value of other boolean, double, float and character type variables. Explain the + characters work in details from above code.

Objective 3:

```
package com.texas.lab1;

import java.util.Scanner;

public class ScannerObjective {

	public static void main(String[] args) {

		int num1, num2;
		Scanner scanner = new Scanner(System.in);
		System.out.println("Enter a number");
		num1 = scanner.nextInt();
		num2= scanner.nextInt();

		System.out.println("Input num1 is : "+num1);
		System.out.println("Input num2 is : "+num2);
		scanner.close();
	}
}
```

Assignment:

3.0 Explain about the nextBoolean, nextByte, nextDouble, nextFloat, nextInt, nextLine, nextLong, nextShort methods with suitable examples.

Objective 4:

```
package com.texas.lab1;

import java.util.Scanner;

public class ConstantObjective {

	public static void main(String[] args) {

		final int PENCIL_PRICE = 5;

		System.out.println("Enter the number of Pencil you want to buy?");
		Scanner scanner = new Scanner(System.in);
		int number = scanner.nextInt();
		int totalPrice = PENCIL_PRICE*number;

		System.out.println("Total Price of Pencils is : "+totalPrice);
		scanner.close();
	}
    }
```

Assignment:

4.0 Define constant. How to declare constants in java? Find the area of the circle by defining the constant variable for PI.

Objective 5:

```
package com.texas.lab1;

public class DataTypesInJavaObjective {

	public static void main(String[] args) {
		boolean dataBoolean = true;
		char dataChar = 'S';
		byte dataByte = 30;
		short dataShort = 10;
		int dataInt = 100;
		long dataLLong = 23456781;
		float dataFloat = 12345.45f;
		double dataDouble = 8756.4546;
		String dataString = "Texas College";
		int[] dataIntArray = {1,2,55,100};
	}
 }
```

Assignment:

5.0 From above code list out the primitive data types and non primitive data types. Print default variables.

Objective 6:

```
package com.texas.lab1;

import java.util.Scanner;

public class OperatorsObjective {

	public static void main(String[] args) {

		int num1, num2, sub, sum, mul, div, rem;

		Scanner scanner = new Scanner(System.in);
		System.out.println("Enter a value of num1 : ");
		num1 = scanner.nextInt();

		System.out.println("Enter a value of num2 : ");
		num2 = scanner.nextInt();

		sub = num1 - num2;
		sum = num1 + num2;
		mul = num1 * num2;
		div = num1 / num2;
		rem = num1 % num2;

		System.out.println("Sum of "+num1+ " , "+num2 + " = "+sum);
		System.out.println("Sub of "+num1+ " , "+num2 + " = "+sub);
		System.out.println("Mul of "+num1+ " , "+num2 + " = "+mul);
		System.out.println("Div of "+num1+ " , "+num2 + " = "+div);
		System.out.println("Rem of "+num1+ " , "+num2 + " = "+rem);

		scanner.close();

	}
}
```