Object-Oriented Programming Lab#2

Today's Topics

- Tool Demo
- Flow Controls: If, While, For, Do-While
- Recursion
- User Input
- Array

Code to read user input using Scanner:(need to import java.util.Scanner)

```
Scanner scan = new Scanner (System . in ) ;
int inputNum  =  scan.nextInt();
double input = scan.nextDouble();
```

Code to read user input using JOptionPane: (need to import javax.swing.JOptionPane)

static String showInputDialog(Component parentComponent, Object message)

String name = JOptionPane.*showInputDialog(**null, "enter name");***

Problems/Assignments

1. Write a java program to determine whether **a given number is even or odd.**

Sample Input	Expected Output
7	odd
8	even
11	odd

2. Write a java program to determine whether **a given number is prime or not**.

Sample Input	Expected Output
7	Prime
9	Not Prime
11	Prime

3. Write a program that will take **n integer numbers into an array**, and then **sum** up all the **even integers** in that array.

Sample input	Sample output
{1, 2, 3, 4, 5}	6
{2, 8, 3, 9, 0, 1}	10

4. Write a program in java to find the factorial of n. Use **recursion**.

Sample Input	Expected Output
2	2
3	6
0	1
-2 (any negative number)	NA

5. Write a program in java to display the individual digits of a number. Use **recursion**.

Sample Input	Expected Output (better version)	Expected Output
172	1,7,2	2, 7, 1
90357	9,0,3,5,7	7, 5, 3, 0, 9
110	1,1,0	0, 1, 1

6. Write a Java program to show the number pyramid. The program will prompt the user to enter an integer number as input. If the **user input is 9 or less, display that many lines** of the pyramid. If **user input is 10 or above, display only 9 lines**. Don't hard code the values, use logic.

Sample Input	Expected Output
5	1 1 2 1 1 2 3 2 1 1 2 3 4 3 2 1 1 2 3 4 5 4 3 2 1
12	1 1 2 1 1 2 3 2 1 1 2 3 4 3 2 1 1 2 3 4 5 4 3 2 1 1 2 3 4 5 6 5 4 3 2 1 1 2 3 4 5 6 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 9 8 7 6 5 4 3 2 1