**Java Lecture 5**

**Java - Introduction to Programming**

**Lecture 5**

**Patterns - Part 1**

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 5;

int m = 4;

for(int i=0; i<n; i++) {

for(int j=0; j<m; j++) {

System.out.print("\*");

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 5;

int m = 4;

for(int i=0; i<n; i++) {

for(int j=0; j<m; j++) {

if(i == 0 || i == n-1 || j == 0 || j == m-1) {

System.out.print("\*");

} else {

System.out.print(" ");

}

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 4;

for(int i=1; i<=n; i++) {

for(int j=1; j<=i; j++) {

System.out.print("\*");

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 4;

for(int i=n; i>=1; i--) {

for(int j=1; j<=i; j++) {

System.out.print("\*");

}

System.out.println();

}

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 4;

for(int i=n; i>=1; i--) {

for(int j=1; j<i; j++) {

System.out.print(" ");

}

for(int j=0; j<=n-i; j++) {

System.out.print("\*");

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 5;

for(int i=1; i<=n; i++) {

for(int j=1; j<=i; j++) {

System.out.print(j);

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 5;

for(int i=n; i>=1; i--) {

for(int j=1; j<=i; j++) {

System.out.print(j);

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 5;

int number = 1;

for(int i=1; i<=n; i++) {

for(int j=1; j<=i; j++) {

System.out.print(number+" ");

number++;

}

System.out.println();

}

}

}

import java.util.\*;

public class Patterns {

public static void main(String args[]) {

int n = 5;

for(int i=1; i<=n; i++) {

for(int j=1; j<=i; j++) {

if((i+j) % 2 == 0) {

System.out.print(1+" ");

} else {

System.out.print(0+" ");

}

}

System.out.println();

}

}

}

**Homework Problems (Solutions in next Lecture’s Video)**

1.Print a solid rhombus.

2.Print a number pyramid.

3.Print a palindromic number pyramid.

**Homework Solution (Lecture 4)**

1.Print all even numbers till n.

class Solutions {

public static void main(String args[]) {

int n = 25;

for(int i=1; i<=n; i++) {

if(i % 2 == 0) {

System.out.println(i);

}

}

}

}

2.Make a menu driven program. The user can enter 2 numbers, either 1 or 0.If the user enters 1 then keep taking input from the user for a student’s marks(out of 100).

If they enter 0 then stop.

If he/ she scores :

Marks >=90 -> print “This is Good”

89 >= Marks >= 60 -> print “This is also Good”

59 >= Marks >= 0 -> print “This is Good as well”

Because marks don’t matter but our effort does.

(Hint : use do-while loop but think & understand why)

import java.util.\*;

public class Solutions {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int input;

do {

int marks = sc.nextInt();

if(marks >= 90 && marks <= 100) {

System.out.println("This is Good");

} else if(marks >= 60 && marks <= 89) {

System.out.println("This is also Good");

} else if(marks >= 0 && marks <= 59) {

System.out.println("This is Good as well");

} else {

System.out.println("Invalid");

}

System.out.println("Want to continue ? (yes(1) or no(0))");

input = sc.nextInt();

} while(input == 1);

}

}

**Qs. Print if a number n is prime or not (Input n from the user).**

[In this problem you will learn how to check if a number is prime or not]

import java.util.\*;

public class Solutions {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

int n = sc.nextInt();

boolean isPrime = true;

for(int i=2; i<=n/2; i++) {

if(n % i == 0) {

isPrime = false;

break;

}

}

if(isPrime) {

if(n == 1) {

System.out.println("This is neither prime not composite");

} else {

System.out.println("This is a prime number");

}

} else {

System.out.println("This is not a prime number");

}

}

}