# **JAT Task 5**

1. Write a program to check whether a given string is a palindrome or not using for loop and if-else statement.

package training;

import java.util.Scanner;

public class task5 {

public static void main(String[] args) {

// Given string

Scanner input = new Scanner(System.***in***);

System.***out***.print("Enter a word: ");

String str = input.nextLine();

// String str = "madam"; // You can change this to test other strings

str = str.toLowerCase();

String revStr = "";

for (int i = str.length()-1; i>=0;i--) {

revStr = (revStr + str.charAt(i));

}

System.***out***.println("Reversed word: " + revStr);

if(str.equals(revStr)) {

System.***out***.println("Entered word is Palindrome");

}

else {

System.***out***.println("Entered word is not a Palindrome");

}

input.close();

}

}

Output:

Enter a word: Madam

Reversed word: madam

Entered word is Palindrome

2. Write a program that reads in a string from the user and uses a loop to reverse the order of

the characters in the string. Then, output the reversed string.

package training;

import java.util.Scanner;

public class task5q2 {

public static void main(String[] args) {

// Create a scanner object to read user input

Scanner scanner = new Scanner(System.***in***);

// Prompt the user to enter a string

System.***out***.print("Enter a string: ");

String inputString = scanner.nextLine();

// Initialize an empty string to store the reversed string

String reversedString = "";

// Loop to reverse the string

for (int i = inputString.length() - 1; i >= 0; i--) {

reversedString += inputString.charAt(i); // Append each character from the end

}

// Output the reversed string

System.***out***.println("Reversed string: " + reversedString);

// Close the scanner

scanner.close();

}

}

**Output:**

Enter a string: Prabhu

Reversed string: uhbarP

3. Write a program to print the given below pattern.

Sample Input:

4

Sample Output:

1

23

456

7 8 9 10

package training;

import java.util.Scanner;

public class task5q3 {

public static void main(String[] args) {

// Create a scanner object to read user input

Scanner scanner = new Scanner(System.***in***);

// Prompt the user to enter a number

System.***out***.print("Enter a number: ");

int n = scanner.nextInt(); // Read the number

int num = 1; // Start number to print

// Loop to print the pattern

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

// Inner loop to print numbers in each row

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

System.***out***.print(num + " "); // Print the current number

num++; // Increment the number for next print

}

// Move to the next line after each row

System.***out***.println();

}

// Close the scanner

scanner.close();

}

}

Output:

Enter a number: 4

1

2 3

4 5 6

7 8 9 10

4. Write a program to print the given below pattern.

Sample Input"

5

Sample Output:

\* \*

\* \*

\*

\* \*

\* \*

package training;

import java.util.Scanner;

public class task5q4 {

public static void main(String[] args) {

// Create a scanner object to read user input

Scanner scanner = new Scanner(System.***in***);

// Prompt the user to enter a number

System.***out***.print("Enter a number: ");

int n = scanner.nextInt(); // Read the number

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

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

if(i==j) {

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

}

else if(i+j == n+1){

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

}

else

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

}

System.***out***.println();

}

scanner.close();

}

}

Output:

Enter a number: 8

\* \*

\* \*

\* \*

\*\*

\*\*

\* \*

\* \*

\* \*

5. Anna University Grading System

The newly appointed Vice-Chancellor of Anna University wanted to create an automated grading

system for the students to check their grade. When a student enters a mark, the

grading system displays the corresponding grade. Write a program to solve the given

problem. The grades for marks 100-S, 90-99 is A, 80-89 is B, 70-79 is C, 60-69 is D, 50-59 is E and less than 50 is F.

package training;

import java.util.Scanner;

public class task5q5 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.***in***);

System.***out***.print("Enter marks: ");

int marks = scanner.nextInt();

// Check if the input is valid (marks should be between 0 and 100)

if (marks > 100 || marks < 0) {

System.***out***.println("Invalid Input");

} else {

// Determine the grade based on the marks

if (marks >= 90) {

System.***out***.println("A");

} else if (marks >= 80) {

System.***out***.println("B");

} else if (marks >= 70) {

System.***out***.println("C");

} else if (marks >= 60) {

System.***out***.println("D");

} else if (marks >= 50) {

System.***out***.println("E");

} else {

System.***out***.println("F");

}

}

scanner.close();

}

}

Output:

Enter marks: 55

E

6. Write a program to calculate the hotel tariff. The room rent is 20% high during peak seasons [April-June, November-December]. Note: Use the switch construct.

package training;

import java.util.Scanner;

public class task5q6 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.***in***);

System.***out***.print("Enter the month number: ");

int month = scanner.nextInt(); // Month number (1-12)

System.***out***.print("Enter the room rent per day: ");

float roomRent = scanner.nextFloat(); // Room rent per day

System.***out***.print("Enter the number of days stayed: ");

int days = scanner.nextInt(); // Number of days stayed

float finalTariff;

// Apply peak season tariff using switch case

switch (month) {

case 4: // April

case 5: // May

case 6: // June

case 11: // November

case 12: // December

// Peak season: 20% hike on room rent

finalTariff = roomRent \* 1.20f \* days;

break;

default:

// Off-season, no hike

finalTariff = roomRent \* days;

break;

}

// Print the final tariff to be paid, rounded to 2 decimal places

System.***out***.printf("%.2f\n", finalTariff);

scanner.close();

}

}

Output:

Enter the month number: 11

Enter the room rent per day: 1000

Enter the number of days stayed: 10

12000.00

7. Write a program to calculate the largest number among three numbers.

package training;

import java.util.Scanner;

public class task5q7 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.***in***);

System.***out***.print("Enter first number: ");

int num1 = scanner.nextInt();

System.***out***.print("Enter second number: ");

int num2 = scanner.nextInt();

System.***out***.print("Enter third number: ");

int num3 = scanner.nextInt();

// Logic to find the largest number using if-else

int largest;

if (num1 >= num2 && num1 >= num3) {

largest = num1;

} else if (num2 >= num1 && num2 >= num3) {

largest = num2;

} else {

largest = num3;

}

System.***out***.println("The largest number is: " + largest);

scanner.close();

}

}

**Output:**

Enter first number: 5

Enter second number: 2

Enter third number: 9

The largest number is: 9