Java Programming Question

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

Program:

import java.util.Scanner;

public class Palindrome {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.***in***);//Creating scanner obj

System.***out***.print("Enter a string: ");//getting input from scanner

String str = scanner.nextLine();

String reverseStr = "";

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

reverseStr = reverseStr + str.charAt(i);//Adding the last char befor the first char to get the reversed string

}

if(str.equalsIgnoreCase(reverseStr)) {

System.***out***.println(str + " is a palindrome.");//to check if the reversed string is equal to the given string ignoring capital letters

} else {

System.***out***.println(str + " is not a palindrome.");

}

}

}

Output;

Enter a string: Racecar

Racecar is a palindrome.

Enter a string: Palindrome

Palindrome is not a 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

Program:

import java.util.Scanner;

public class StrReverse {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.***in***);//creating scanner obj

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

String str = scanner.nextLine();

String reverseStr = "";

//logic to reverse the string

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

reverseStr = reverseStr + str.charAt(i);

}

System.***out***.println("Reversed string: "+reverseStr); //using same logic as palindrome but without checking if it is palindrome we are printing the string

}

}

Output:

Enter a string: string

Reversed string: gnirts

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

Sample Input:

4

Sample Output:

1

2 3

4 5 6

7 8 9 10

Program:

import java.util.Scanner;

public class Pattern1 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.***in***);//creating scanner obj

System.***out***.print("Enter no.of rows: ");//getting no of rows as input

int n = scanner.nextInt();

int count = 1;

for(int i = 1; i <= n; i++) { //i represents the throws

for(int j = 1; j <= i; j++) { //j represents the number of int in the row

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

count++;

}

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

}

}

}

Output:

Enter no.of rows: 5

1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

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

Sample Input"

5

Sample Output:

\* \*

\* \*

\*

\* \*

\* \*

Program:

import java.util.Scanner;

public class Pattern2 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.***in***);//creating scanner obj

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

int n = sc.nextInt(); //int n used to get the no. of lines of the pattern

for (int i = 0; i < n; i++) { //determines whether to print '\*' or ' '.

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

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

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

} else {

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

}

}

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

}

}

}

Output:

Enter a number of rows: 7

\* \*

\* \*

\* \*

\*

\* \*

\* \*

\* \*

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.

Input format:

The input consists of one integer which corresponds to the marks scored by the student Output format:

If a student marks greater than 100, print "Invalid Input". Otherwise, print the grade.

Sample Input:

78

Sample Output: с

Program:

import java.util.Scanner;

public class Grading\_system {

public static void main(String[] args) {

Scanner sc= new Scanner(System.***in***);//creating scanner obj

System.***out***.print("Enter marks: ");//getting mark as input from scanner

int mark=sc.nextInt();

if(mark>100) {

System.***out***.println("invalid Input");//print statement if mark is greater than 100

}

if(mark==100) {

System.***out***.println("The grade is S");//print statement if mark is equal to 100

}

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

System.***out***.println("The grade is A");//print statement if mark is less than 100 and greater than or equal to 90

}

if(mark<90 && mark>=80) {

System.***out***.println("The grade is B");//print statement if mark is less than 90 and greater than or equal to 90

}

if(mark<80 && mark>=70) {

System.***out***.println("The grade is C");//print statement if mark is less than 80 and greater than or equal to 70

}

if(mark<70 && mark>=60) {

System.***out***.println("The grade is D");//print statement if mark is less than 70 and greater than or equal to 60

}

if(mark<60 && mark>=50) {

System.***out***.println("The grade is E");//print statement if mark is less than 60 and greater than or equal to 50

}

if(mark<50) {

System.***out***.println("The grade is F");//print statement if mark is less than 50

}

}

}

Output:

Enter marks: 85

The grade is B

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.

Input format:

The first input containing an integer which denotes the number of the month

The second input containing the floating point number which denotes the room rent per day

The third input containing an integer which denotes the number of days stayed in the hotel

Output format:

Print the hotel tariff to be paid in floating point with 2 decimal places

Refer the sample output for formatting

Sample Input:

3

1500

2

Sample Output:

3000.00

Program:

import java.util.Scanner;

public class Hote\_tariff {

public static void main(String[] args) {

Scanner sc = new Scanner(System.***in***);//creating scanner obj

System.***out***.print("Enter the month: ");//getting month from scanner

int month= sc.nextInt();

System.***out***.print("Enter per day rent: ");//getting rent per day from scanner

float rent= sc.nextFloat();

System.***out***.print("Enter number of days: ");//getting no.of days from scanner

int days= sc.nextInt();

double tariff;//declaring tariff variable

//switch statement for peak season

switch(month) {

case 4:

case 5:

case 6:

case 11:

case 12:

tariff = days\*rent\*1.2;//calculation of tariff for peak season

break;

default:

tariff = days\*rent;//calculation of tariff for normal days

break;

}

System.***out***.print("The total tariff is: " + String.*format*("%.2f", tariff)); //using String.format() to print 2 decimal places

}

}

Output:

Enter the month: 5

Enter per day rent: 1234.56

Enter number of days: 2

The total tariff is: 2962.94

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

Program:

import java.util.Scanner;

public class LargestNumber {

public static void main(String[] args) {

Scanner sc = new Scanner(System.***in***);//creating scanner obj

System.***out***.println("Enter numer1: ");//getting num1 input from scanner

int num1 = sc.nextInt();

System.***out***.println("Enter numer2: ");//getting num2 input from scanner

int num2 = sc.nextInt();

System.***out***.println("Enter numer3: ");//getting num3 input from scanner

int num3 = sc.nextInt();

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

System.***out***.println("The number " + num1 + " is the largest.");//checking if num1 is greater than num2 and num3

}

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

System.***out***.println("The number " + num2 + " is the largest.");//checking if num2 is greater than num1 and num3

}

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

System.***out***.println("The number " + num3 + " is the largest.");//checking if num3 is greater than num1 and num2

}

}

}

Output:

Enter numer1:

12

Enter numer2:

54

Enter numer3:

37

The number 54 is the largest.