CSC103 Programming Fundamentals Decision Making

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# LAB TASKS

1. Input a character from user. Check if it is vowel or consonant. First do it with if-else statement and then with switch statement.

package com.company;  
import java.util.Scanner;  
public class task1 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println("Enter a charachter");  
 char Ch = sc.next().charAt(0);  
 char ch = Character.*toLowerCase*(Ch);  
 if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u')  
 System.*out*.println("Vowel and checked by else-if");  
 else  
 System.*out*.println("Consonant checked by else if");  
 switch(ch){  
 case 'a': case 'e' : case 'i': case 'o' : case 'u' :  
 System.*out*.println("VOWEL and checked by switch statement" );  
 break;  
 default:  
 System.*out*.println("CONSONANT checked by switch statement");  
 }  
 }  
}

1. Take three floating-point numbers. Find the largest of them. Implement using nested-if statement, and then with multi-way if-else statement.

public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println("Enter three values:- ");  
 float x = sc.nextFloat();  
 float y = sc.nextFloat();  
 float z = sc.nextFloat();  
  
 if ( x>y){  
 if (x>z)  
 System.*out*.println("x ha larger value and value is " +x);  
 else  
 System.*out*.println("z ha larger value and value is " +z);  
 }  
 else if (y>z)  
 if(y>x)  
 System.*out*.println("y ha larger value and value is " +y);  
 else  
 System.*out*.println("y ha larger value and value is " +y);  
 else  
 System.*out*.println("z ha larger value and value is " +z);  
 }

1. Input a year from keyboard. Your program should determine if it is a leap year or not.

package com.company;  
import java.util.Scanner;  
  
public class task3 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println("enter year:- ");  
 int div , year = sc.nextInt();  
 div = year % 4 ;  
 if( year % 4 == 0)  
 if (year % 100==0)  
 if ( year% 400==0 )  
 System.*out*.println(year + " is leap year ");  
 else  
 System.*out*.println(year + " is not leap year ");  
 else  
 System.*out*.println(year + " is leap year ");  
 else  
 System.*out*.println(year + " is not leap year ");  
 }  
}

1. Input a character. Determine if the character is an alphabet or not. If it is an alphabet, check if it is an uppercase alphabet or lowercase alphabet.

package com.company;  
  
import java.util.Scanner;  
  
public class task4 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println("Enter a charachter");  
 char ch = sc.next().charAt(0);  
 if (ch >= 'a' && ch<='z')  
 System.*out*.println("Alphabet and it is NOT capitalized");  
 else if (ch >= 'A' && ch <= 'Z')  
 System.*out*.println("Alphabet and it is capitalized");  
 else  
 System.*out*.println("Not Alphabet ");  
 }  
}

1. Calculate a student’s grade and GPA for Programming Fundamentals. Get marks from user.

package com.company;  
  
import java.util.Scanner;  
public class task5 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println("Enter marks");  
 int marks = sc.nextInt();  
  
 if (marks >=90 && marks <=100)  
 System.*out*.println("Your gpa is 4.0 and Grade A+ ");  
 else if (marks >=85 && marks <90)  
 System.*out*.println("Your gpa is 3.7 AND Grade is A" );  
 else if (marks >=80 && marks <85)  
 System.*out*.println("Your gpa is is 3.3 and grade is B+" );  
 else if (marks >=75 && marks <80)  
 System.*out*.println("Your gpa is 3 and Grade is B" );  
 else if (marks >=70 && marks <75){  
 System.*out*.println("Your gpa is 2.7 AND Grade is C " );}  
 else  
 System.*out*.println("FAIL and gpa is less than 2.7");  
 }  
}

1. Make a scientific calculator. Implement 10 math functions, using Java’s Math class, with switch-case statement.

package com.company;  
import java.util.Scanner;  
  
public class task6 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 int x,y;  
 System.*out*.println("\n Press 1 to find MAX number " +  
 "\n press 2 to find min number" +  
 "\n press 3 to find Sqrt of Number" +  
 "\n press 4 to find power of number" +  
 "\n press 5 to find log of number" +  
 "\n press 6 to find log10 " +  
 " \n press 7 to find exponential" +  
 "\n press 8 to find sin of angle" +  
 "\n press 9 to find cos of angle " +  
 "\n press 10 to find tan of angle" +  
 "\n Enter choice:- ");  
 int choice = sc.nextInt();  
  
 switch (choice) {  
 case 1 -> {  
 System.*out*.println("Enter 1st value:- ");  
 x = sc.nextInt();  
 System.*out*.println("Enter 2nd value:- ");  
 y = sc.nextInt();  
 System.*out*.println("Max value from " + x + "and " + y + "is " + Math.*max*(x, y));  
 }  
 case 2 -> {  
 System.*out*.println("Enter 1st value:- ");  
 x = sc.nextInt();  
 System.*out*.println("Enter 2nd value:- ");  
 y = sc.nextInt();  
 System.*out*.println("Max value from " + x + "and " + y + "is " + Math.*min*(x, y));  
 }  
 case 3 -> {  
 System.*out*.println("Enter value:- ");  
 int value = sc.nextInt();  
 System.*out*.println("SQRT OF " + value + " is " + Math.*sqrt*(value));  
 }  
 case 4 -> {  
 System.*out*.println("Enter n(n^p) value:- ");  
 x = sc.nextInt();  
 System.*out*.println("Enter p(n^p) value:- ");  
 y = sc.nextInt();  
 System.*out*.println("Power of " + x + "^" + y + " is " + Math.*pow*(x, y));  
 }  
 case 5 -> {  
 System.*out*.println("Enter value:- ");  
 x = sc.nextInt();  
 System.*out*.println("Log of " + x + " is " + Math.*log*(x));  
 }  
 case 6 -> {  
 System.*out*.println("Enter value:- ");  
 x = sc.nextInt();  
 System.*out*.println("Log of " + x + " is " + Math.*log10*(x));  
 }  
 case 7 -> {  
 System.*out*.println("Enter value to find exponentiotion:- ");  
 x = sc.nextInt();  
 System.*out*.println("Exponention of " + x + " is " + Math.*exp*(x));  
 }  
 case 8 -> {  
 System.*out*.println("Enter value to find sin:- ");  
 x = sc.nextInt();  
 System.*out*.println("tan of " + x + " is " + Math.*tan*(x));  
 }  
 case 9 -> {  
 System.*out*.println("Enter value to find cos:- ");  
 x = sc.nextInt();  
 System.*out*.println("cos of " + x + " is " + Math.*tan*(x));  
 }  
 case 10 -> {  
 System.*out*.println("Enter value to find tan of angle:- ");  
 x = sc.nextInt();  
 System.*out*.println("Tan of " + x + " is " + Math.*tan*(x));  
 }  
 default -> System.*out*.println("INVALID INPUT");  
 }  
 }  
}

1. Find difference between two time periods (a time period is hours:minutes:seconds).

package com.company;  
import java.util.Scanner;  
public class task7 {  
 public static void main(String[] args){  
 Scanner sc = new Scanner(System.*in*);  
 int h1 = sc.nextInt();  
 int h2 = sc.nextInt();  
 int m1 = sc.nextInt();  
 int m2 = sc.nextInt();  
 int s1 = sc.nextInt();  
 int s2 = sc.nextInt();  
 int h = h1 - h2;  
 int m = m1 - m2;  
 int s = s1 - s2;  
 if (m1-m2 < 0)  
 {  
 h--;  
 m = 60 - m;  
  
 }  
 if (s1-s2 < 0) {  
 m--;  
 s = 60 - s;  
 }  
 System.*out*.println(h1+ ":" + m1+":" + s1 + " - " + h1+ ":" + m1+":" + s1 + " is " + h+ ":" + m+":" + s);  
 }  
}

1. Make rock/paper/scissors game.

package com.company;  
import java.util.Scanner;  
import java.util.Random;  
  
public class task8 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 Random random = new Random();  
 System.*out*.println(" 1--> Rock \n 2--> Paper \n 03--Scissor \n" +  
 "Winning Rules of the Rock paper scissor game as follows: \n"  
 +"Rock vs paper->paper wins \n"  
 + "Rock vs scissor->Rock wins \n"  
 +"paper vs scissor->scissor wins \n");  
 String userChoiceName , compChoiceName;  
 System.*out*.println("Enter your Choice: ");  
 int choice = sc.nextInt();  
 if (choice == 1)  
 userChoiceName = "rock";  
 else if (choice == 2)  
 userChoiceName = "paper";  
 else  
 userChoiceName = "scissor";  
  
 System.*out*.println("user choice is: " + userChoiceName);  
 System.*out*.println("\nNow its computer turn.......");  
 int rand = random.nextInt(3);  
  
 if (rand == 1)  
 compChoiceName = "rock";  
 else if (rand == 2)  
 compChoiceName = "paper";  
 else  
 compChoiceName = "scissor";  
 System.*out*.println("\n computer turn is ......." + compChoiceName);  
  
 if (userChoiceName == compChoiceName)  
 System.*out*.print("Tie!");  
  
 else if (userChoiceName == "rock")  
 if (compChoiceName == "paper")  
 System.*out*.println("You lose!"+ compChoiceName+ "covers"+ userChoiceName);  
 else  
 System.*out*.println("You win!"+ userChoiceName+"smashes"+ compChoiceName);  
 else if (userChoiceName == "paper")  
 if (compChoiceName == "scissor")  
 System.*out*.println("You lose!"+ compChoiceName+ "cut"+userChoiceName);  
 else  
 System.*out*.println("You win!"+userChoiceName+ "covers" +compChoiceName);  
 else if (userChoiceName == "scissor")  
 if (compChoiceName == "rock")  
 System.*out*.print("You lose..." + compChoiceName+"smashes"+ userChoiceName);  
 else  
 System.*out*.print("You win! "+ userChoiceName+ "cut"+ compChoiceName);  
 else  
 System.*out*.print("That's not a valid play. Check your input!");  
  
 }  
}

1. Make a small quiz game. The design of the quiz can be similar to what is given hereunder. You can however make it more interesting. Use only decision structures (no loops, arrays, etc.)
   1. Give three options of domains to choose from; for example, science, geography, history. User will select one of the domains.
   2. Ask the user five different MCQs from the chosen domain. For example, if the user has chosen ‘history’, your program will now ask 5 MCQs related to history.
   3. For every right answer, 5 points shall be awarded to the user. For every wrong answer, 2 points shall be deducted.
   4. Display total points earned by the user.

package com.company;  
  
import java.util.Scanner;  
  
public class task9 {  
 public static void main(String[] args) {  
 Scanner sc = new Scanner(System.*in*);  
 System.*out*.println(" press 1 for History mcqs" +  
 " \n press 2 for Science mcqs" +  
 "\n press 3 for Geography quiz?" +  
 "What type of quiz you want to do... ? : ");  
 int choice = sc.nextInt();  
 switch (choice) {  
 case 1:  
 int score =0;  
 System.*out*.println("Question1:- Elizabeth \_\_\_\_\_\_ war with England’s " +  
 "\n a. I’s \n b. II’s \n c. III’s \n choose correct option (a/b/c): ");  
 char ans = sc.next().charAt(0);  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println("Question2:- When did WorldWar2 started? " +  
 "\n a. 1939 \n b. 1940 \n c. 1941 \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println("Question#3:- When did WorldWar2 ended? " +  
 "\n a. 1944 \n b. 1945 \n c. 1946 \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'b')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println(" Question4:- When did WorldWar1 ended? " +  
 "\n a. 1916 \n b. 1917 \n c. 1918 \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'c')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'b'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println(" When did WorldWar1 started? " +  
 "\n a. 1914 \n b. 1912 \n c. 1908 \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
 System.*out*.println("Your total score is :" +score);  
 break;  
  
  
 case 2:  
 score =0;  
 System.*out*.println("1. Radioactivity was discovered by\n" +  
 "(A) Henri Becquerel\n" +  
 "(B) Pierre Curie\n" +  
 "(C) Marie Curie\n" +  
 "(D) Rutherford ");  
 ans = sc.next().charAt(0);  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println("Question2:- Which component of the body works as an energy storage device?\n" +  
 "(A) Fats\n" +  
 "(B) Proteins\n" +  
 "(C) Liver\n" +  
 "(D) Skin \n " +  
 " choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
  
 if (ans == 'b')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println("Question#3:- Ozone protects the Earth from harmful ultraviolet radiations from the Sun." +  
 " The chemical formula of ozone is\n" +  
 "(A) O\n" +  
 "(B) O2\n" +  
 "(C) O3\n" +  
 "(D) O4 \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'c')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'b'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println(" Question4:- Who won the Nobel prize in physics for the discovery of the “Law of photoelectric effect”?\n" +  
 "(A) Wilhelm Rontgen\n" +  
 "(B) Ernest Rutherford\n" +  
 "(C) Albert Einstein\n" +  
 "(D) Isaac Newton" +  
 " \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'c')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'b'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println(" When did WorldWar1 started? " +  
 "\n a. 1914 \n b. 1912 \n c. 1908 \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
 System.*out*.println("Your total score is :" +score);  
 break;  
 case 3:  
 score =0;  
 System.*out*.println("Question1:- Tugela is an example of \_\_\_\_\_\_\_\_\_\_?\n" +  
 "[A] Waterfall\n" +  
 "[B] Shipping Canal\n" +  
 "[C] Natural Lake" +  
 " \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println("Question2:- Calorie of Energy is equal to \_\_\_\_\_\_\_\_\_?\n" +  
 "[A] .42 joule\n" +  
 "[B] 4.2 joule\n" +  
 "[C] 42 joule \n" +  
 " \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println("Question#3:-The Mocha Town, which was once famous and largest exporter of Mocha Coffee is located in which among the following countries?\n" +  
 "[A] Bahrain\n" +  
 "[B] Yemen\n" +  
 "[C] Syria \n " +  
 " \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'b')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println(" Question4:- Next to sun, which is the nearest star of the earth?\n" +  
 "[A] Apha centuari\n" +  
 "[B] Orion\n" +  
 "[C] Usra Major\n" +  
 " \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'c')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'a' || ans == 'b'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
  
 System.*out*.println(" Theory of special relativity was developed by:\n" +  
 "[A] Einstein\n" +  
 "[B] Newton\n" +  
 "[C] Galileo\n" +  
 " \n choose correct option (a/b/c): ");  
 ans = sc.next().charAt(0);  
 if (ans == 'a')  
 {  
 score = score + 5; System.*out*.println(" \n TRUE Answer");  
 System.*out*.println("Your score is " + score);  
 }  
 else if(ans == 'b' || ans == 'c'){  
 score = score - 2; System.*out*.println(" \n False Answer");}  
 else{  
 System.*out*.println("You entered Invalid option which means false"); score = score - 2;}  
 System.*out*.println("Your total score is :" +score); break;  
  
 default:  
 System.*out*.println("You entered something wrong.. TRY AGAIN");  
 }  
 }  
}

1. **Make Tic Tac Toe game, using only selection statements. Do not use loops.**

package com.company;

import java.util.\*;

public class task10  
{public static void main(String[] args)  
 {

char one ='1',two='2',three='3',four='4',five='5',six='6',seven ='7',eight='8',nine='9';  
 Scanner input = new Scanner(System.*in*);  
 System.*out*.println(" \n 1--> O \n 2--> X \n Enter Choice: " );  
 char c = input.next().charAt(0);  
 char choice = Character.*toUpperCase*(c);  
 char choice2 , choice1 = choice;  
 if (choice=='O' || choice =='X'){  
 if ( choice1 =='O'){  
 choice1 = choice;  
 choice2 = 'X';}  
 else{  
 choice1 = choice;  
 choice2 = 'O';}  
 System.*out*.println(" User 1 picked " +choice1 );  
 System.*out*.println(" User 2 picked " +choice2 );  
 }  
 else  
 System.*out*.println("INVALID INPUT" );  
  
 System.*out*.println(one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
 System.*out*.println("USER 1 TURN:- ");  
 System.*out*.println("Enter your choice");  
 char user1Turn = input.next().charAt(0);  
  
 if (choice == 'X') {  
 choice1 = 'X';  
 choice2 = 'O';  
 }  
 else  
 {  
 choice2 = 'X';  
 choice1 = 'O';  
 }  
  
  
 if (user1Turn==one){  
 one = choice1;  
 System.*out*.println("Choice is " +choice);}  
 else if(user1Turn==two)  
 two = choice1;  
 else if(user1Turn==three)  
 three = choice1;  
 else if(user1Turn==four)  
 four = choice1;  
 else if(user1Turn==five)  
 five = choice1;  
 else if(user1Turn==six)  
 six = choice1;  
 else if(user1Turn==seven)  
 seven = choice1;  
 else if(user1Turn==eight)  
 eight = choice1;  
 else if(user1Turn==nine)  
 nine = choice1;  
 else  
 System.*out*.println("INVALID INPUT");  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
  
 System.*out*.println("USER 2 TURN:- " );  
 System.*out*.println("Enter your choice");  
 char user2Turn = input.next().charAt(0);  
 System.*out*.println("USER 1 IS" +user1Turn);  
 if (user2Turn==one){  
 one = choice2;  
 System.*out*.println("Choice is " +choice);}  
 else if(user2Turn==two)  
 two = choice2;  
 else if(user2Turn==three)  
 three = choice2;  
 else if(user2Turn==four)  
 four = choice2;  
 else if(user2Turn==five)  
 five = choice2;  
 else if(user2Turn==six)  
 six = choice2;  
 else if(user2Turn==seven)  
 seven = choice2;  
 else if(user2Turn==eight)  
 eight = choice2;  
 else if(user2Turn==nine)  
 nine = choice2;  
 else {  
 System.*out*.println("INVALID INPUT");  
 }  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
 System.*out*.println("USER 1 TURN:- ");  
 System.*out*.println("Enter your choice");  
 user1Turn = input.next().charAt(0);  
 if (user1Turn==one){  
 one = choice1;  
 System.*out*.println("Choice is " +choice);}  
 else if(user1Turn==two)  
 two = choice1;  
 else if(user1Turn==three)  
 three = choice1;  
 else if(user1Turn==four)  
 four = choice1;  
 else if(user1Turn==five)  
 five = choice1;  
 else if(user1Turn==six)  
 six = choice1;  
 else if(user1Turn==seven)  
 seven = choice1;  
 else if(user1Turn==eight)  
 eight = choice1;  
 else if(user1Turn==nine)  
 nine = choice1;  
 else  
 System.*out*.println("INVALID INPUT");  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
  
 System.*out*.println("USER 2 TURN:- " );  
 System.*out*.println("Enter your choice");  
 user2Turn = input.next().charAt(0);  
 if (user2Turn==one){  
 one = choice2;  
 System.*out*.println("Choice is " +choice);}  
 else if(user2Turn==two)  
 two = choice2;  
 else if(user2Turn==three)  
 three = choice2;  
 else if(user2Turn==four)  
 four = choice2;  
 else if(user2Turn==five)  
 five = choice2;  
 else if(user2Turn==six)  
 six = choice2;  
 else if(user2Turn==seven)  
 seven = choice2;  
 else if(user2Turn==eight)  
 eight = choice2;  
 else if(user2Turn==nine)  
 nine = choice2;  
 else {  
 System.*out*.println("INVALID INPUT");  
 }  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
 System.*out*.println("USER 1 TURN:- ");  
 System.*out*.println("Enter your choice");  
 user1Turn = input.next().charAt(0);  
 if (user1Turn==one){  
 one = choice1;  
 System.*out*.println("Choice is " +choice);}  
 else if(user1Turn==two)  
 two = choice1;  
 else if(user1Turn==three)  
 three = choice1;  
 else if(user1Turn==four)  
 four = choice1;  
 else if(user1Turn==five)  
 five = choice1;  
 else if(user1Turn==six)  
 six = choice1;  
 else if(user1Turn==seven)  
 seven = choice1;  
 else if(user1Turn==eight)  
 eight = choice1;  
 else if(user1Turn==nine)  
 nine = choice1;  
 else  
 System.*out*.println("INVALID INPUT");  
 if ( (seven==eight && eight==nine ) || (three==six && six==nine))  
 {  
 if (nine==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 }  
 else if ((one==two && two==three ) || (one==five && five==nine ) || (one==four && four==seven ) )  
 {  
 if (one==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if (three==five && five==seven ) {  
 if (five==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else  
 System.*out*.println();  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
 System.*out*.println("USER 2 TURN:- " );  
 System.*out*.println("Enter your choice");  
 user2Turn = input.next().charAt(0);  
 if (user2Turn==one){  
 one = choice2;  
 System.*out*.println("Choice is " +choice);}  
 else if(user2Turn==two)  
 two = choice2;  
 else if(user2Turn==three)  
 three = choice2;  
 else if(user2Turn==four)  
 four = choice2;  
 else if(user2Turn==five)  
 five = choice2;  
 else if(user2Turn==six)  
 six = choice2;  
 else if(user2Turn==seven)  
 seven = choice2;  
 else if(user2Turn==eight)  
 eight = choice2;  
 else if(user2Turn==nine)  
 nine = choice2;  
 else {  
 System.*out*.println("INVALID INPUT");  
 }  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
 if ( (seven==eight && eight==nine ) || (three==six && six==nine))  
 {  
 if (nine==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if ((one==two && two==three ) || (one==five && five==nine ) || (one==four && four==seven ) )  
 {  
 if (one==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if (three==five && five==seven ) {  
 if (five==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else  
 System.*out*.println();  
  
 System.*out*.println("USER 1 TURN:- ");  
 System.*out*.println("Enter your choice");  
 user1Turn = input.next().charAt(0);  
 if (user1Turn==one){  
 one = choice1;  
 System.*out*.println("Choice is " +choice);}  
 else if(user1Turn==two)  
 two = choice1;  
 else if(user1Turn==three)  
 three = choice1;  
 else if(user1Turn==four)  
 four = choice1;  
 else if(user1Turn==five)  
 five = choice1;  
 else if(user1Turn==six)  
 six = choice1;  
 else if(user1Turn==seven)  
 seven = choice1;  
 else if(user1Turn==eight)  
 eight = choice1;  
 else if(user1Turn==nine)  
 nine = choice1;  
 else  
 System.*out*.println("INVALID INPUT");  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
 if ( (seven==eight && eight==nine ) || (three==six && six==nine))  
 {  
 if (nine==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if ((one==two && two==three ) || (one==five && five==nine ) || (one==four && four==seven ) )  
 {  
 if (one==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if (three==five && five==seven ) {  
 if (five==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
System.*exit*(1);  
 }  
 else  
 System.*out*.println();  
  
 System.*out*.println("USER 2 TURN:- " );  
 System.*out*.println("Enter your choice");  
 user2Turn = input.next().charAt(0);  
 if (user2Turn==one){  
 one = choice2;  
 System.*out*.println("Choice is " +choice);}  
 else if(user2Turn==two)  
 two = choice2;  
 else if(user2Turn==three)  
 three = choice2;  
 else if(user2Turn==four)  
 four = choice2;  
 else if(user2Turn==five)  
 five = choice2;  
 else if(user2Turn==six)  
 six = choice2;  
 else if(user2Turn==seven)  
 seven = choice2;  
 else if(user2Turn==eight)  
 eight = choice2;  
 else if(user2Turn==nine)  
 nine = choice2;  
 else {  
 System.*out*.println("INVALID INPUT");  
 }  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
 if ( (seven==eight && eight==nine ) || (three==six && six==nine))  
 {  
 if (nine==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if ((one==two && two==three ) || (one==five && five==nine ) || (one==four && four==seven ) )  
 {  
 if (one==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if (three==five && five==seven ) {  
 if (five==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
System.*exit*(1);  
 }  
 else  
 System.*out*.println();  
  
 System.*out*.println("USER 1 TURN:- ");  
 System.*out*.println("Enter your choice");  
 user1Turn = input.next().charAt(0);  
 if (user1Turn==one){  
 one = choice1;  
 System.*out*.println("Choice is " +choice);}  
 else if(user1Turn==two)  
 two = choice1;  
 else if(user1Turn==three)  
 three = choice1;  
 else if(user1Turn==four)  
 four = choice1;  
 else if(user1Turn==five)  
 five = choice1;  
 else if(user1Turn==six)  
 six = choice1;  
 else if(user1Turn==seven)  
 seven = choice1;  
 else if(user1Turn==eight)  
 eight = choice1;  
 else if(user1Turn==nine)  
 nine = choice1;  
 else  
 System.*out*.println("INVALID INPUT");  
 System.*out*.println( one + "|" + two + "|" + three);  
 System.*out*.println(four + "|" + five + "|" + six);  
 System.*out*.println(seven + "|" + eight + "|" + nine);  
  
 if ( (seven==eight && eight==nine ) || (three==six && six==nine))  
 {  
 if (nine==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if ((one==two && two==three ) || (one==five && five==nine ) || (one==four && four==seven ) ) {  
 if (one==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else if (three==five && five==seven) {  
 if (five==choice1)  
 System.*out*.println("USER 1 WON");  
 else  
 System.*out*.println("USER 2 WON");  
 System.*out*.println("GAME FINISHED :::: java programm has stopped!!!");  
 System.*exit*(1);  
 }  
 else  
 System.*out*.println("DRAW");  
 }  
}