Tutorial – 2

SD2

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Q1. Variables and operators.

package Week2;

import java.util.\*;

public class Qone {

    public static *void* main(String[] *args*){

        Scanner input = new Scanner(System.in);

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

*double* firstNumber = input.nextDouble();

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

*double* secondNumber = input.nextDouble();

*double* sum = firstNumber + secondNumber;

        System.out.println("sum is " + sum);

    }

}

Q2. Age

package Week2;

import java.util.\*;

class Qtwo{

    public static *void* main(String[] *args*){

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the age : ");

*int* age = input.nextInt();

        if (age >= 18){

            System.out.println("Over 18");

        }

        else {

            if (age > 0){

                System.out.println("Under 18");

            }

            else{

                System.out.println("The age entered is incorrect");

            }

        }

    }

}

Q3. Module Mark Calculation

package Week2;

import java.util.\*;

public class Qthree {

    public static *void* main(String[] *args*){

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the ICT marks : ");

*float* ictMarks = input.nextFloat();

        System.out.print("Enter the CW marks : ");

*float* cwMarks = input.nextFloat();

        if ((ictMarks >= 30) && (cwMarks >= 30)){

*float* final\_mark = ((ictMarks + cwMarks) / 2);

            if (final\_mark >= 40){

                System.out.println("Module passed\n Marks : " + final\_mark);

            }

            else {

                System.out.println("Module failed ");

            }

        }

    }

}

Q4. Grade Classification

package Week2;

import java.util.\*;

import java.util.Scanner;

public class Qfour {

    public static *void* main(String[] *args*) {

        Scanner input = new Scanner(System.in);

        System.out.print("enter the marks : ");

*int* mark = input.nextInt();

        if (mark > 100){

            System.out.println("Invalid value");

        }

        else if (mark > 69){

            System.out.println("First class");

        }

        else if( mark > 59){

            System.out.println("Second class (Upper)");

        }

        else if(mark > 49){

            System.out.println("Second class (Lower)");

        }

        else if (mark > 39){

            System.out.println("Thirds class");

        }

        else {

            System.out.println("Invalid value");

        }

    }

}

Q5. Calculator

package Week2;

import java.util.Scanner;

public class Qfive{

    public static *void* main(String[] *args*){

        Scanner input = new Scanner(System.in);

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

*int* fistNumber = input.nextInt();

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

*int* SecondNumber = input.nextInt();

        System.out.print("Enter the operator (+,-,/,\*): ");

        String operator = input.next().trim();

        switch (operator) {

            case "+":

            System.out.println("Result: " + (fistNumber + SecondNumber));

            break;

            case "-":

            System.out.println("Result: " + (fistNumber - SecondNumber));

            break;

            case "\*":

            System.out.println("Result: " + (fistNumber \* SecondNumber));

            break;

            case "/":

            if (SecondNumber != 0) {

                System.out.println("Result: " + (fistNumber / SecondNumber));

            } else {

                System.out.println("Error: Division by zero");

            }

            break;

            default:

            System.out.println("Invalid operator");

            break;

        }

    }

}

Q6. Exam eligibility

package Week2;

import java.util.\*;

class Qsix {

    public static *void* main(String[] *args*) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the number of classes held : ");

*int* noOfClassesHeld = input.nextInt();

        System.out.print("Enter the number of classes attended : ");

*int* noOfClassesAttended = input.nextInt();

*int* attendancePercentage = (noOfClassesAttended \* 100) / noOfClassesHeld;

        System.out.println("Attendance Percentage: " + attendancePercentage + "%");

        if (attendancePercentage >= 75) {

            System.out.println("You are allowed to sit in the exam");

        } else {

            System.out.print("Do you have a medical cause? (Y/N) : ");

*char* medicalCause = input.next().charAt(0);

            if (medicalCause == 'Y') {

                System.out.println("You are allowed to sit in the exam");

            }

            else{

                System.out.println("You are not allowed to sit in the exam");

            }

        }

    }

}

Q7. Bankging System

package Week2;

import java.util.\*;

public class Qseven {

    public static *void* main(String[] *args*){

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the current account balance : ");

*float* currentAccountBalance = input.nextFloat() ;

        while (true) {

            System.out.println("Choose an option: ");

            System.out.println("1. Deposit");

            System.out.println("2. Withdraw");

            System.out.println("3. Check for fraud");

            System.out.println("4. Exit");

            System.out.print("Enter your choice: ");

*int* choice = input.nextInt();

            switch (choice) {

            case 1:

                System.out.print("Enter deposit amount: ");

*float* depositAmount = input.nextFloat();

                currentAccountBalance += depositAmount;

                System.out.println("New balance: " + currentAccountBalance);

                break;

            case 2:

                System.out.print("Enter withdrawal amount: ");

*float* withdrawalAmount = input.nextFloat();

                if (withdrawalAmount > currentAccountBalance) {

                System.out.println("Insufficient funds!");

                } else {

                currentAccountBalance -= withdrawalAmount;

                System.out.println("New balance: " + currentAccountBalance);

                }

                break;

            case 3:

                if (currentAccountBalance < 0) {

                System.out.println("Fraud detected! Negative balance.");

                } else {

                System.out.println("No fraud detected.");

                }

                break;

            case 4:

                System.out.println("Exiting...");

                input.close();

                System.exit(0);

            default:

                System.out.println("Invalid option. Please try again.");

            }

        }

    }

}

Q8. Rock, paper Scissors game

package Week2;

import java.util.\*;

public class Qeight {

    public static *void* main(String[] *args*){

        Scanner input = new Scanner(System.in);

        System.out.println("Welcome to the game!\n0. Rock\n1. Paper\n2. Scissors");

        System.out.print("Enter a number between 0 and 2: ");

*int* userNumber = input.nextInt();

*int* randomNumber = new Random().nextInt(3);

        System.out.println(randomNumber);

        if (userNumber == randomNumber){

            System.out.println("It's a tie!");

        }

        else if (userNumber == 0 && randomNumber == 2 || userNumber == 1 && randomNumber == 0 || userNumber == 2 && randomNumber == 1){

            System.out.println("You win!");

        }

        else{

            System.out.println("You lose!");

        }

    }

}

Q9. :

1. Output Prediction

All the codes give the same outpout. So the codes are equivalent

1. Guess the output.

int i = 1; i += ++i + i++ + ++i;

i = 9

int j = 1; j += ++j + j++ + ++j;

j = 9 (assuming syntax fixed)

int k = 1; k += k++ + k++ + ++k;

k = 8

1. Right Statement

if ((age < 17 ) || (age > 85))  
{/don’t drive!}