package Looping;

import java.util.Scanner;

public class Looping {

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

        menu();

    }

    public static void menu(){

    try (Scanner input = new Scanner(System.in)) {

        char choice1 = ' ',choice2 = ' ';

        do{

            System.out.println("============WELCOME TO OBJECT ORIENTED PROGRAMMING!!=============");

            System.out.println("================CHOOSE FROM THE FOLLOWING========================");

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

            System.out.println("1.)----------SEQUENTIAL----------------------------------------::");

            System.out.println("2.)----------SELECTION-----------------------------------------::");

            System.out.println("3.)----------LOOPING-------------------------------------------::");

            System.out.println("4.)----------EXIT----------------------------------------------::");

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

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

            choice1 = input.next().charAt(0);

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

            switch(choice1){

                case '1':

                sequential();

                break;

                case '2':

                Selection();

                break;

                case '3':

                Looping();

                break;

                case '4':

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

                choice2 = 'N';

                break;

                default:

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

                System.out.println("Do you want to continue ? (Y) for yes if not 👎 ");

                choice2 = input.next().charAt(0);

                break;

                }

            }

            while(choice2 == 'y' || choice2 == 'Y');

    }

    }

    static void sequential()

    {

        try (Scanner input2 = new Scanner(System.in)) {

            boolean exit = false;

            char ans;

            do

            {

            System.out.println("================HI!!!! WELCOME TO SEQUENTIAL=====================");

            System.out.println("=================CHOOSE FROM THE FOLLOWING=======================");

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

            System.out.println("A.)----------Area of Rectangle-------------------------------- ::");

            System.out.println("B.)----------Farenheit to Celsius----------------------------- ::");

            System.out.println("C.)----------Circle------------------------------------------- ::");

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

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

            ans = input2.next().charAt(0);

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

            switch(ans)

            {

                case 'a':

                case 'A':

                System.out.print("Enter the Lenght:\_\_\_ ");

                double l = input2.nextDouble();

                System.out.print("Enter the Width:\_\_\_ ");

                double w = input2.nextDouble();

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

                double a = l\*w;

                System.out.println("This is the area of a rectangle: " + a);

                break;

                case 'b':

                case 'B':

                System.out.print("Enter Fahrenheit:\_\_\_ ");

                Double f = input2.nextDouble();

                double c = (f-32)\*5/9;

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

                System.out.print("The converted temperature of fahrenheit into celsius is: "+ c);

                break;

                case 'c':

                case 'C':

                System.out.print("Enter Radius:\_\_\_ ");

                double r = input2.nextDouble();

                a = Math.PI \* Math.pow(r, 2);

                c = 2\* Math.PI \* r;

                double d = 2 \* r;

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

                System.out.println("Area of a Circle: " + a);

                System.out.println("Circumference of a Circle: " + c);

                System.out.println("Diameter of a Circle: " + d);

                break;

                default:

                System.out.println("INVALID INPUT!");

                break;

            }

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

   System.out.println("To go back to Selection Choices (Y): ");

   System.out.println("To go back to Main menu         (N): ");

   System.out.println("To end the code press any key   ( ): ");

   System.out.print(":\_\_\_ ");

   char choose = input2.next().charAt(0);

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

   if(choose == 'Y' || choose == 'y')

   {

   exit = true;

   }

   else if (choose == 'N' || choose == 'n')

   {

   menu();

   }

   else

   {

   exit = false;

   }

}

while(exit == true);

        }

}

    public static void Selection()

    {

        try (Scanner scanner = new Scanner(System.in)) {

            boolean exit = true;

            do

            {

            System.out.println("================HI!!!! WELCOME TO SElECTION=======================");

            System.out.println("=================CHOOSE FROM THE FOLLOWING=======================");

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

            System.out.println("1.)----------Determine if a number is ODD or EVEN------------- ::");

            System.out.println("2.)----------Check if a Year is a Leap Year------------------- ::");

            System.out.println("3.)----------Calculate shipping cost based on weight(in pounds)::");

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

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

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

                char choose = scanner.next().charAt(0);

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

                if(choose == '1' || choose== '2' || choose == '3' || choose == '4')

                {

                    switch (choose){

                        case '1':

                        {

                            System.out.print("Enter an Integer:\_\_\_ ");

                            int number = scanner.nextInt();

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

                            if (number % 2 == 0)

                            {

                            System.out.println(number + " is even.");

                            }

                            else

                            {

                            System.out.println(number + " is odd.");

                            }

                            break;

                        }

                        case '2':

                        {

                            System.out.print("Enter a Year:\_\_\_ ");

                            int year = scanner.nextInt();

                            boolean isLeapYear = false;

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

                            if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))

                            {

                                isLeapYear = true;

                            }

                            if (isLeapYear)

                            {

                            System.out.println(year + " is a leap year.");

                            }

                            else

                            {

                            System.out.println(year + " is not a leap year.");

                            }

                            break;

                        }

                        case '3':

                        {

                            System.out.print("Enter the weight of the package in pounds:\_\_\_ ");

                            double weight = scanner.nextDouble();

                            double shippingCost;

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

                            if (weight <= 10)

                            {

                                shippingCost = 250.00;

                            }

                            else

                            {

                                shippingCost = 400.00;

                            }

                            System.out.println("Shipping cost for a " + weight + " pound package: PHP " + shippingCost);

                            break;

                        }

                        case '4' :

                        {

                            exit = false;

                            break;

                        }

                        default :

                        {

                    System.out.println("INVALID INPUT!");

                    break;

                        }

                    }

                }

                else

                {

                    System.out.println("INVALID INPUT!");

                }

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

                    System.out.println("To go back to Selection Choices (Y): ");

                    System.out.println("To go back to Main menu(N): ");

                    System.out.println("To end the code press any key: ");

                    System.out.print(":\_\_\_ ");

                    choose = scanner.next().charAt(0);

                    if(choose == 'Y' || choose == 'y')

                    {

                        exit = true;

                    }

                    else if (choose == 'N' || choose == 'n')

                    {

                        menu();

                    }

                    else

                    {

                        exit = false;

                    }

            }

            while(exit == true);

        }

    }

    public static void Looping()

    {

        try (Scanner p = new Scanner(System.in)) {

            char choice3 = ' ',choice4 = ' ', choice5 = ' ';

            boolean exit2 = false;

            do

            {

            System.out.println("================HI!!!! WELCOME TO ITERATION======================");

            System.out.println("=================CHOOSE FROM THE FOLLOWING=======================");

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

            System.out.println("1.)--------------First 10 Fibonacci Numbers------------------- ::");

            System.out.println("2.)--------------ATM SIMULATION------------------------------- ::");

            System.out.println("3.)--------------Multiplication Table of a given Number------- ::");

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

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

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

                choice3 = p.next().charAt(0);

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

                if(choice3 == '1' || choice3 == '2' || choice3 == '3' || choice3 == '4')

                {

                    switch(choice3)

                    {

                        case '1' :

                        {

                            System.out.println("--FIBONACCI SEQUENCE--");

                            System.out.print("0, 1, ");

                            int x, sum, range = 1, domain = 0;

                            for (x = 2; x <= 9; x++)

                            {

                                sum = domain + range;

                                System.out.print(sum + ", ");

                                domain = range;

                                range = sum;

                            }

                            break;

                        }

                        case '2' :

                        {

                                System.out.println("Welcome to --ATM SIMULATION--");

                            double totalbalance = 0;

                            boolean iterate = false;

                                System.out.println("Please Enter ATM Initial Balance:\_\_\_  ");

                                totalbalance = p.nextDouble();

                            do

                            {

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

                                System.out.println("ATM BALANCE:Php " + totalbalance);

                                System.out.println("How much do you want to withdraw? ");

                                System.out.print("Insert Amount:\_\_\_ ");

                                double wdraw = p.nextDouble();

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

                            if(wdraw >= 1 && wdraw <= totalbalance){

                                totalbalance = totalbalance - wdraw;

                                System.out.println("Withdrawal Successful:");

                                System.out.println("You Withdraw a total of:Php "+ wdraw);

                                System.out.println("Your remaining Balance is:Php "+ totalbalance);

                            }

                            else

                            {   System.out.println(":::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::");

                                System.out.println("Invalid Withdrawal, No enough Balance:");

                            }

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

                                System.out.println("Do you want to withdraw again ? y for yes if not pres any key: ");

                          choice4 = p.next().charAt(0);

                         if(choice4 == 'y' || choice4 == 'Y'){

                         if(totalbalance >=1){

                          iterate = true;

                          }

                      else{

                         iterate = false;

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

                                System.out.println("Sorry your ATM Account is out of balance:");

                          }

                      }else

                      {

                       iterate = false;

                      }

                        }

                        while (iterate == true);

                        break;

                    }

                    case '3' :

                    {

                        int m,x,mt;

                        System.out.print("Input a number to Multiply:\_\_\_ ");

                        m = p.nextInt();

                        System.out.println("Multiplication Table of the number: "+ m);

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

                        for(x=1;x<=10;x++)

                        {

                            mt = m \* x;

                        System.out.println("::        "+ x + " \* " + m + " = " + mt );

                        }

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

                         break;

                    }

                    case '4' :

                    {

                        exit2 = false;

                        break;

                    }

                    default :

                    {

                System.out.println("INVALID INPUT!");

                        break;

                    }

                }

            }

            else

            {

                System.out.println("INVALID INPUT!");

            }   System.out.println();

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

                System.out.println("To go back to Iteration Choices (Y): ");

                System.out.println("To go back to Main menu(N): ");

                System.out.println("To end the code press any key: ");

                System.out.print(":\_\_\_ ");

                choice5 = p.next().charAt(0);

                if(choice5 == 'Y' || choice5 == 'y')

                exit2 = true;

                else if (choice5 == 'N' || choice5 == 'n')

                menu();

                else

                exit2 = false;

        }

        while (exit2 == true);

    }

}

}

Package Looping;

import java.util.Scanner;

public class Looping {

public static void main(String[] args) {

menu();

}

public static void menu(){

try (Scanner input = new Scanner(System.in)) {

char choice1 = ' ',choice2 = ' ';

do{

System.out.println("============WELCOME TO OBJECT ORIENTED PROGRAMMING!!=============");

System.out.println("================CHOOSE FROM THE FOLLOWING========================");

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

System.out.println("1.)----------SEQUENTIAL----------------------------------------::");

System.out.println("2.)----------SELECTION-----------------------------------------::");

System.out.println("3.)----------LOOPING-------------------------------------------::");

System.out.println("4.)----------EXIT----------------------------------------------::");

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

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

choice1 = input.next().charAt(0);

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

switch(choice1){

case '1':

sequential();

break;

case '2':

Selection();

break;

case '3':

Looping();

break;

case '4':

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

choice2 = 'N';

break;

default:

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

System.out.println("Do you want to continue ? (Y) for yes if not 👎 ");

choice2 = input.next().charAt(0);

break;

}

}

while(choice2 == 'y' || choice2 == 'Y');

}

}

static void sequential()

{

try (Scanner input2 = new Scanner(System.in)) {

boolean exit = false;

char ans;

do

{

System.out.println("================HI!!!! WELCOME TO SEQUENTIAL=====================");

System.out.println("=================CHOOSE FROM THE FOLLOWING=======================");

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

System.out.println("A.)----------Area of Rectangle-------------------------------- ::");

System.out.println("B.)----------Farenheit to Celsius----------------------------- ::");

System.out.println("C.)----------Circle------------------------------------------- ::");

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

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

ans = input2.next().charAt(0);

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

switch(ans)

{

case 'a':

case 'A':

System.out.print("Enter the Lenght:\_\_\_ ");

double l = input2.nextDouble();

System.out.print("Enter the Width:\_\_\_ ");

double w = input2.nextDouble();

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

double a = l\*w;

System.out.println("This is the area of a rectangle: " + a);

break;

case 'b':

case 'B':

System.out.print("Enter Fahrenheit:\_\_\_ ");

Double f = input2.nextDouble();

double c = (f-32)\*5/9;

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

System.out.print("The converted temperature of fahrenheit into celsius is: "+ c);

break;

case 'c':

case 'C':

System.out.print("Enter Radius:\_\_\_ ");

double r = input2.nextDouble();

a = Math.PI \* Math.pow(r, 2);

c = 2\* Math.PI \* r;

double d = 2 \* r;

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

System.out.println("Area of a Circle: " + a);

System.out.println("Circumference of a Circle: " + c);

System.out.println("Diameter of a Circle: " + d);

break;

default:

System.out.println("INVALID INPUT!");

break;

}

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

System.out.println("To go back to Selection Choices (Y): ");

System.out.println("To go back to Main menu (N): ");

System.out.println("To end the code press any key ( ): ");

System.out.print(":\_\_\_ ");

char choose = input2.next().charAt(0);

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

if(choose == 'Y' || choose == 'y')

{

exit = true;

}

else if (choose == 'N' || choose == 'n')

{

menu();

}

else

{

exit = false;

}

}

while(exit == true);

}

}

public static void Selection()

{

try (Scanner scanner = new Scanner(System.in)) {

boolean exit = true;

do

{

System.out.println("================HI!!!! WELCOME TO SElECTION=======================");

System.out.println("=================CHOOSE FROM THE FOLLOWING=======================");

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

System.out.println("1.)----------Determine if a number is ODD or EVEN------------- ::");

System.out.println("2.)----------Check if a Year is a Leap Year------------------- ::");

System.out.println("3.)----------Calculate shipping cost based on weight(in pounds)::");

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

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

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

char choose = scanner.next().charAt(0);

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

if(choose == '1' || choose== '2' || choose == '3' || choose == '4')

{

switch (choose){

case '1':

{

System.out.print("Enter an Integer:\_\_\_ ");

int number = scanner.nextInt();

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

if (number % 2 == 0)

{

System.out.println(number + " is even.");

}

else

{

System.out.println(number + " is odd.");

}

break;

}

case '2':

{

System.out.print("Enter a Year:\_\_\_ ");

int year = scanner.nextInt();

boolean isLeapYear = false;

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

if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))

{

isLeapYear = true;

}

if (isLeapYear)

{

System.out.println(year + " is a leap year.");

}

else

{

System.out.println(year + " is not a leap year.");

}

break;

}

case '3':

{

System.out.print("Enter the weight of the package in pounds:\_\_\_ ");

double weight = scanner.nextDouble();

double shippingCost;

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

if (weight <= 10)

{

shippingCost = 250.00;

}

else

{

shippingCost = 400.00;

}

System.out.println("Shipping cost for a " + weight + " pound package: PHP " + shippingCost);

break;

}

case '4' :

{

exit = false;

break;

}

default :

{

System.out.println("INVALID INPUT!");

break;

}

}

}

else

{

System.out.println("INVALID INPUT!");

}

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

System.out.println("To go back to Selection Choices (Y): ");

System.out.println("To go back to Main menu(N): ");

System.out.println("To end the code press any key: ");

System.out.print(":\_\_\_ ");

choose = scanner.next().charAt(0);

if(choose == 'Y' || choose == 'y')

{

exit = true;

}

else if (choose == 'N' || choose == 'n')

{

menu();

}

else

{

exit = false;

}

}

while(exit == true);

}

}

public static void Looping()

{

try (Scanner p = new Scanner(System.in)) {

char choice3 = ' ',choice4 = ' ', choice5 = ' ';

boolean exit2 = false;

do

{

System.out.println("================HI!!!! WELCOME TO ITERATION======================");

System.out.println("=================CHOOSE FROM THE FOLLOWING=======================");

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

System.out.println("1.)----------First 10 Fibonacci Numbers------------------------::");

System.out.println("2.)----------ATM SIMULATION------------------------------------::");

System.out.println("3.)----------Multiplication Table of a given Number------------::");

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

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

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

choice3 = p.next().charAt(0);

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

if(choice3 == '1' || choice3 == '2' || choice3 == '3' || choice3 == '4')

{

switch(choice3)

{

case '1' :

{

System.out.println("--FIBONACCI SEQUENCE--");

System.out.print("0, 1, ");

int x, sum, range = 1, domain = 0;

for (x = 2; x <= 9; x++)

{

sum = domain + range;

System.out.print(sum + ", ");

domain = range;

range = sum;

}

break;

}

case '2' :

{

System.out.println("Welcome to --ATM SIMULATION--");

double totalbalance = 0;

boolean iterate = false;

System.out.println("Please Enter ATM Initial Balance:\_\_\_ ");

totalbalance = p.nextDouble();

do

{

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

System.out.println("ATM BALANCE:Php " + totalbalance);

System.out.println("How much do you want to withdraw? ");

System.out.print("Insert Amount:\_\_\_ ");

double wdraw = p.nextDouble();

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

if(wdraw >= 1 && wdraw <= totalbalance){

totalbalance = totalbalance - wdraw;

System.out.println("Withdrawal Successful:");

System.out.println("You Withdraw a total of:Php "+ wdraw);

System.out.println("Your remaining Balance is:Php "+ totalbalance);

}

else

{ System.out.println(":::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::");

System.out.println("Invalid Withdrawal, No enough Balance:");

}

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

System.out.println("Do you want to withdraw again ? y for yes if not pres any key: ");

choice4 = p.next().charAt(0);

if(choice4 == 'y' || choice4 == 'Y'){

if(totalbalance >=1){

iterate = true;

}

else{

iterate = false;

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

System.out.println("Sorry your ATM Account is out of balance:");

}

}else

{

iterate = false;

}

}

while (iterate == true);

break;

}

case '3' :

{

int m,x,mt;

System.out.print("Input a number to Multiply:\_\_\_ ");

m = p.nextInt();

System.out.println("Multiplication Table of the number: "+ m);

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

for(x=1;x<=10;x++)

{

mt = m \* x;

System.out.println(":: "+ x + " \* " + m + " = " + mt );

}

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

break;

}

case '4' :

{

exit2 = false;

break;

}

default :

{

System.out.println("INVALID INPUT!");

break;

}

}

}

else

{

System.out.println("INVALID INPUT!");

} System.out.println();

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

System.out.println("To go back to Iteration Choices (Y): ");

System.out.println("To go back to Main menu(N): ");

System.out.println("To end the code press any key: ");

System.out.print(":\_\_\_ ");

choice5 = p.next().charAt(0);

if(choice5 == 'Y' || choice5 == 'y')

exit2 = true;

else if (choice5 == 'N' || choice5 == 'n')

menu();

else

exit2 = false;

}

while (exit2 == true);

}

}

}