**Worksheet 04**

**CTEC 22043**

**Object Oriented Programming**

**Student No: CT/2021/002**



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**Q 01:**

**Code:**

package Q\_01;

import java.util.Scanner;

public class Q\_01 {

public static void main(String[] args) {

int x,y,z;

Scanner scan = new Scanner(System.in);

System.out.print("Enter Value 1: ");

x = scan.nextInt();

System.out.print("Enter Value 2: ");

y = scan.nextInt();

System.out.print("Enter Value 3: ");

z = scan.nextInt();

int min;

if (x<y){

if(x<z){

min = x;

}

else{

min = z;

}

}

else{

if(y<z){

min = y;

}

else{

min = z;

}

}

System.out.print("Smallest Value is: "+min);

}

}

**Output:**

**A screenshot of a computer program

AI-generated content may be incorrect.**

**Q 02:**

**Code:**

package Q\_02;

import java.util.Scanner;

public class Q\_02 {

public static void main(String[] args) {

Scanner scan = new Scanner(System.in);

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

System.out.println("\t0.Magenta");

System.out.println("\t1.Cyan");

System.out.println("\t2.Red");

System.out.println("\t3.Blue");

System.out.println("\t4.Green");

System.out.print("\nSelect one color from the above list:");

int color = scan.nextInt();

scan.close();

switch(color){

case 0:

System.out.println("You selected Magenta");

break;

case 1:

System.out.println("You selected Cyan");

break;

case 2:

System.out.println("You selected Red");

break;

case 3:

System.out.println("You selected Blue");

break;

case 4:

System.out.println("You selected Green");

break;

default:

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

break;

}

}

}

**Result:**

**A computer screen shot of a black screen

AI-generated content may be incorrect.**

**Q 03:**

**Code:**

package Q\_03;

import java.util.Scanner;

public class Q\_03 {

public static void main(String[] args) {

Scanner scan = new Scanner(System.in);

System.out.print("\nEnter the power of 10th you want to know what its called: ");

int power = scan.nextInt();

switch(power){

case 6:

System.out.println("10^6 is called 'Million'");

break;

case 9:

System.out.println("10^9 is called 'Billion'");

break;

case 12:

System.out.println("10^12 is called 'Trillion'");

break;

case 15:

System.out.println("10^15 is called 'Quadrillion'");

break;

case 18:

System.out.println("10^18 is called 'Quintillion'");

break;

case 21:

System.out.println("10^21 is called 'Sextillion'");

break;

case 30:

System.out.println("10^30 is called 'Nonillion'");

break;

case 100:

System.out.println("10^100 is called 'Googol'");

break;

default:

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

break;

}

}

}

**Result:**

**A computer screen with white text

AI-generated content may be incorrect.**

**Q 04:**

**Code:**

package Q\_04;

import java.util.Scanner;

public class Q\_04 {

public static void main(String[] args) {

Scanner scan = new Scanner(System.in);

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

int year = scan.nextInt();

if (year%4 == 0 && year%100 != 0) {

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

} else {

if (year%4 == 0 && year%100 == 0 && year%400 == 0) {

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

} else {

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

}

}

}

}

**Result:**

**A screen shot of a computer program

AI-generated content may be incorrect.**

**Q 05:**

**Code:**

package Q\_05;

import java.util.\*;

public class Q\_05 {

public static void main(String[] args) {

Scanner scan = new Scanner(System.in);

String[][] menuItems = {

{"Tofu Burger", "Cajun Chicken", "Buffalo Wings", "Rainbow Fillet"},

{"Rice Cracker", "No-Salt Fries", "Zucchini", "Brown Rice"},

{"Cafe Mocha", "Cafe Latte", "Espresso", "Oolong Tea"}

};

double[][] menuPrices = {

{3.49, 4.59, 3.99, 2.99},

{0.79, 0.69, 1.09, 0.59},

{1.99, 1.90, 2.49, 0.99}

};

String[] categories = {"Entree", "Side Dish", "Drink"};

ArrayList<String> orderedItems = new ArrayList<>();

HashSet<String> selectedItems = new HashSet<>();

double totalPrice = 0.0;

int choice;

do {

System.out.println("\nMain Menu:");

for (int i = 0; i < categories.length; i++) {

System.out.printf("%d. %s\n", i + 1, categories[i]);

}

System.out.println("4. Finish and Show Total");

System.out.print("Please 'click' the number of your choice: ");

choice = scan.nextInt();

if (choice >= 1 && choice <= 3) {

totalPrice += selectItems(categories[choice - 1], menuItems[choice - 1], menuPrices[choice - 1], orderedItems, selectedItems, scan);

} else if (choice == 4) {

System.out.println("\nTHANK YOU FOR ORDERING!!");

System.out.println("Your ordered items:");

orderedItems.forEach(item -> System.out.println("- " + item));

System.out.printf("Total: $%.2f\n", totalPrice);

} else {

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

}

} while (choice != 4);

}

public static double selectItems(String category, String[] items, double[] prices,

ArrayList<String> order, HashSet<String> selectedSet, Scanner scan) {

double categoryTotal = 0.0;

int selection;

do {

System.out.println("\n" + category + " Menu:");

for (int i = 0; i < items.length; i++) {

System.out.printf("%d. %s \t $%.2f%s\n",

i + 1, items[i], prices[i],

selectedSet.contains(items[i]) ? " [Already Selected]" : "");

}

System.out.println("0. Done with " + category);

System.out.print("Click item number to select (0 to stop): ");

selection = scan.nextInt();

if (selection >= 1 && selection <= items.length) {

String selectedItem = items[selection - 1];

if (selectedSet.add(selectedItem)) {

order.add(selectedItem + " ($" + prices[selection - 1] + ")");

categoryTotal += prices[selection - 1];

System.out.println("Added: " + selectedItem);

} else {

System.out.println("You've already selected that item.");

}

} else if (selection != 0) {

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

}

} while (selection != 0);

return categoryTotal;

}

}

**Result:**

**A screenshot of a computer

AI-generated content may be incorrect.**