**ASSIGNMENT DAY 2**

**LEVEL 2 PRACTICE PROGRAMS**

1. **Write a program to take 2 numbers and print their quotient and reminder**

**Hint => Use division operator (/) for quotient and moduli operator (%) for reminder**

**I/P => number1, number2**

**O/P => The Quotient is \_\_\_ and Reminder is \_\_\_ of two number \_\_\_ and \_\_\_**

import java.util.Scanner;  
public class Question1 {  
 public static void main(String[] Args){  
 Scanner scanner = new Scanner(System.*in*);  
 float n1, n2;  
 System.*out*.print("Enter the first number: ");  
 n1 = scanner.nextInt();  
 System.*out*.print("Enter the Second number: ");  
 n2 = scanner.nextInt();  
 int quotient = (int) (n1 / n2);  
 float remainder = (float) n1 % n2;  
 System.*out*.printf("The quotient is " + quotient + " and Remainder is %.2f of two number %.2f and %.2f.", remainder, n1, n2);  
 }  
}

**OUTPUT**:

Enter the first number: 10

Enter the Second number: 3

The quotient is 0 and Remainder is 1.00 of two number 10.00 and 3.00.

1. **Write an *IntOperation* program by taking a, b, and c as input values and print the following integer operations a + b \*c, a \* b + c, c + a / b, and a % b + c. Please also understand the precedence of the operators.**

**Hint =>**

**Create variables a, b, c of int data type.**

**Take user input for a, b, and c.**

**Compute 3 integer operations and assign result to a variable**

**Finally print the result and try to understand operator precedence.**

import java.util.Scanner;  
public class Question2 {  
 public static void main(String[] Args){  
 Scanner scanner = new Scanner(System.*in*);  
 int a, b, c;  
 System.*out*.print("Enter the value of a: ");  
 a = scanner.nextInt();  
 System.*out*.print("Enter the value of b: ");  
 b = scanner.nextInt();  
 System.*out*.print("Enter the value of c: ");  
 c = scanner.nextInt();  
 int r1 = a + b \* c;  
 int r2 = a \* b + c;  
 int r3 = c + a / b;  
 int r4 = a % b + c;  
 System.*out*.println(r1);  
 System.*out*.println(r2);  
 System.*out*.println(r3);  
 System.*out*.println(r4);  
 }  
}

**OUTPUT:**

Enter the value of a: 5

Enter the value of b: 45

Enter the value of c: 13

590

238

13

18

1. **Similarly, write the *DoubleOpt* program by taking double values and doing the same operations.**

import java.util.Scanner;  
public class Question3 {  
 public static void main(String[] Args){  
 Scanner scanner = new Scanner(System.*in*);  
 double a, b, c;  
 System.*out*.print("Enter the value of a: ");  
 a = scanner.nextDouble();  
 System.*out*.print("Enter the value of b: ");  
 b = scanner.nextDouble();  
 System.*out*.print("Enter the value of c: ");  
 c = scanner.nextDouble();  
 double r1 = a + b \* c;  
 double r2 = a \* b + c;  
 double r3 = c + a / b;  
 double r4 = a % b + c;  
 System.*out*.println(r1);  
 System.*out*.println(r2);  
 System.*out*.println(r3);  
 System.*out*.println(r4);  
 }  
}

**OUTPUT:**

Enter the value of a: 5

Enter the value of b: 454

Enter the value of c: 21

9539.0

2291.0

21.01101321585903

26.0

1. **Write a TemperaturConversion program, given the temperature in Celsius as input outputs the temperature in Fahrenheit**

**Hint =>**

**Create a *celsius* variable and take the temperature as user input**

**Use the Formulae Celsius to Fahrenheit: (°C × 9/5) + 32 = °F and assign to *farenheitResult* and print the result**

import java.util.Scanner;  
public class Question4 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 float celsius;  
 System.*out*.println("Enter the temperature in Celsius: ");  
 celsius= scanner.nextFloat();  
 float fahrenheit = (celsius \* 9/5) + 32;  
 System.*out*.println(celsius + " celsius is equal to " + fahrenheit + " fahrenheit");  
 }  
}

**OUTPUT:**

Enter the temperature in Celsius: 35

35.0 celsius is equal to 95.0 fahrenheit

1. **Write a TemperaturConversion program, given the temperature in Fahrenheit as input outputs the temperature in Celsius**

**Hint =>**

**Create a *fahrenheit* variable and take the user's input**

**User the formulae to convert Fahrenheit to Celsius:   (°F − 32) x 5/9 = °C and assign the result to *celsiusResult*  and print the result**

import java.util.Scanner;  
public class Question5 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 float far;  
 System.*out*.println("Enter the temperature in Fahrenheit: ");  
 far = scanner.nextFloat();  
 float celsius = (far - 32) \* 5/9;  
 System.*out*.println(far + " fahrenheit is equal to " + celsius + " celsius");  
 }  
}

**OUTPUT:**

Enter the temperature in Fahrenheit: 95

95.0 fahrenheit is equal to 35.0 celsius

1. **Create a program to find the total income of a person by taking salary and bonus from user**

**Hint =>**

**Create a variable named salary and take user input.**

**Create another variable bonus and take user input.**

**Compute income by adding salary and bonus and print the result**

import java.util.Scanner;  
public class Question6 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 int salary, bonus;  
 System.*out*.print("Enter your salary: ");  
 salary = scanner.nextInt();  
 System.*out*.print("Enter your bonus: ");  
 bonus = scanner.nextInt();  
 int totalSalary = salary + bonus;  
 System.*out*.print("The salary is INR " + salary + " and bonus is INR " + bonus + ". Hence Total income is INR " + totalSalary);  
 }  
}

**OUTPUT:**

Enter your salary: 5000

Enter your bonus: 100

The salary is INR 5000 and bonus is INR 100. Hence Total income is INR 5100

1. **Create a program to swap two numbers**

**Hint => Create a variable number1 and take user input.**

**Create a variable number2 and take user input.**

**Swap number1 and number2  and print the swapped output**

import java.util.Scanner;  
public class Question7 {  
 public static void main(String[] Args){  
 Scanner scanner = new Scanner(System.*in*);  
 int a, b;  
 System.*out*.print("Enter the first number: ");  
 a = scanner.nextInt();  
 System.*out*.print("Enter the Second number: ");  
 b = scanner.nextInt();  
 a = a + b;  
 b = a - b;  
 a = a - b;  
 System.*out*.println("A: " + a);  
 System.*out*.println("B: " + b);  
 }  
}

**OUTPUT:**

Enter the first number: 13

Enter the Second number: 17

A: 17

B: 13

1. **Rewrite the Sample Program 2 with user inputs**

**Hint =>**

**Create variables and take user inputs for name, fromCity, viaCity, toCity**

**Create variables and take user inputs for distances fromToVia and viaToFinalCity in Miles**

**Create Variables and take time taken**

* import java.util.Scanner;  
  public class Question8 {  
   public static void main(String[] args) {  
   Scanner scanner = new Scanner(System.*in*);  
   System.*out*.print("Enter your name: ");  
   String name = scanner.nextLine();  
   System.*out*.print("Enter your starting city: ");  
   String fromCity = scanner.nextLine();  
   System.*out*.print("Enter the city you will travel via: ");  
   String viaCity = scanner.nextLine();  
   System.*out*.print("Enter your final destination city: ");  
   String toCity = scanner.nextLine();  
   System.*out*.print("Enter the distance from " + fromCity + " to " + viaCity + " (in miles): ");  
   double fromToVia = scanner.nextDouble();  
   System.*out*.print("Enter the distance from " + viaCity + " to " + toCity + " (in miles): ");  
   double viaToFinalCity = scanner.nextDouble();  
   System.*out*.print("Enter the total time taken for the journey (in hours): ");  
   double timeTaken = scanner.nextDouble();  
   double totalDistance = fromToVia + viaToFinalCity;  
   double averageSpeed = totalDistance / timeTaken;  
   System.*out*.println("Travel Details for " + name );  
   System.*out*.println("Starting City: " + fromCity);  
   System.*out*.println("Via City: " + viaCity);  
   System.*out*.println("Destination City: " + toCity);  
   System.*out*.println("Total Distance Traveled: " + totalDistance + " miles");  
   System.*out*.printf("Average Speed: %.2f miles per hour%n", averageSpeed);  
   }  
  }

**OUTPUT:**

Enter your name: Alex Park

Enter your starting city: New York

Enter the city you will travel via: Seattle

Enter your final destination city: Canada

Enter the distance from New York to Seattle (in miles): 500

Enter the distance from Seattle to Canada (in miles): 750

Enter the total time taken for the journey (in hours): 17

Travel Details for Alex Park

Starting City: New York

Via City: Seattle

Destination City: Canada

Total Distance Traveled: 1250.0 miles

Average Speed: 73.53 miles per hour

1. **An athlete runs in a triangular park with sides provided as input by the user in meters. If the athlete wants to complete a 5 km run, then how many rounds must the athlete complete**

**Hint => The perimeter of a triangle is the addition of all sides and rounds is distance/perimeter**

**I/P => side1, side2, side3**

**O/P => The total number of rounds the athlete will run is \_\_\_ to complete 5 km**

import java.util.Scanner;  
public class Question9 {  
 public static void main(String[] Args){  
 Scanner scanner = new Scanner(System.*in*);  
 int side1, side2, side3, distance;  
 System.*out*.print("Enter the value of side1: ");  
 side1 = scanner.nextInt();  
 System.*out*.print("Enter the value of side2: ");  
 side2 = scanner.nextInt();  
 System.*out*.print("Enter the value of side3: ");  
 side3 = scanner.nextInt();  
 System.*out*.print("Enter the distance to be covered: ");  
 distance = scanner.nextInt();  
 int perimeter = side1 + side2 + side3;  
 int rounds = distance/perimeter;  
 System.*out*.printf("The total number of rounds the athlete will run is " + rounds + " to complete " + distance + " km");  
 }  
}

**OUTPUT:**

Enter the value of side1: 1

Enter the value of side2: 1

Enter the value of side3: 1

Enter the distance to be covered: 6

The total number of rounds the athlete will run is 2 to complete 6 km

1. **Create a program to divide N number of chocolates among M children.**

**Hint =>**

**Get an integer value from user for the numberOfchocolates and numberOfChildren.**

**Find the number of chocolates each child gets and number of remaining chocolates**

**Display the results**

import java.util.Scanner;  
public class Question10 {  
 public static void main(String[] Args){  
 Scanner scanner = new Scanner(System.*in*);  
 int noc, students;  
 System.*out*.print("Enter the number of chocolates: ");  
 noc = scanner.nextInt();  
 System.*out*.print("Enter the number of students: ");  
 students = scanner.nextInt();  
 int qoc = noc/ students;  
 int rem = noc % students;  
 System.*out*.println("The number of chocolates each child gets is " + qoc + " and the number of remaining chocolates are " + rem);  
 }  
}

**OUTPUT:**

Enter the number of chocolates: 50

Enter the number of students: 9

The number of chocolates each child gets is 5 and the number of remaining chocolates are 5

1. **Write a program to input the Principal, Rate, and Time values and calculate Simple Interest.**

**Hint => Simple Interest = Principal \* Rate \* Time / 100**

**I/P => principal, rate, time**

import java.util.Scanner;  
public class Question11 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 int principal, rate, time;  
 System.*out*.print("Enter the Principal Amount: ");  
 principal = scanner.nextInt();  
 System.*out*.print("Enter the rate of interest: ");  
 rate = scanner.nextInt();  
 System.*out*.print("Enter the time: ");  
 time = scanner.nextInt();  
 float SI = (float) (principal \* rate \* time) / 100;  
 System.*out*.println("The Simple Interest is " + SI + " for the principal " + principal + ". Rate of interest " + rate + " and time " + time);  
 }  
}

**OUTPUT:**

Enter the Principal Amount: 10000

Enter the rate of interest: 15

Enter the time: 10

The Simple Interest is 15000.0 for the principal 10000. Rate of interest 15 and time 10

1. **Create a program to convert weight in pounds to kilograms.**

**Hint => 1 pound = 2.2 kg**

**I/P => weight**

**O/P => The weight of the person in pound is \_\_\_ and in kg is \_\_\_**

import java.util.Scanner;  
public class Question12 {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 float weight;  
 System.*out*.print("Enter your weight: ");  
 weight = scanner.nextInt();  
 float kg = (float) (weight / 2.2);  
 System.*out*.println("The weight of the person in pound is " + weight + " in kg is " + kg );  
 }  
}

**OUTPUT:**

Enter your weight: 145

The weight of the person in pound is 145.0 in kg is 65.90909