Assignment by Sahaj Deep Singh

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Q1.What is Harry's age in 2024 if he was born in the year 2000?

Code

class age\_of\_harry\_1{

public static void main(String args[]){

//2024 is the current year

int current\_year = 2024;

//2000 is the birth year

int birth\_year = 2000;

int age = current\_year - birth\_year;

System.out.print(age);

}

}

Output

24

Q2.Sam’s marks in Maths, Physics, and Chemistry are 94, 95, and 96 out of 100, respectively. What is his average percentage in PCM?

Code  
class Sam\_marks\_2{

public static void main(String args[]){

//these are the marks scored in each subject

int physics\_marks = 95;

int chemistry\_marks = 96;

int Maths\_marks = 94;

int average = (physics\_marks +chemistry\_marks+Maths\_marks)/3;

System.out.println(average);

}

}

Output

95

Q3.Convert a distance of 10.8 kilometers to miles, given that 1 km = 1.6 miles.

Code

class Distance\_to\_miles{

public static void main(String args[]){

//distance in kilometer

double distance\_kilometer = 10.8;

//this is the distance in miles

double distance\_miles = distance\_kilometer \* 1.6;

System.out.println(distance\_miles);

}

}

Output

17.28

Q4.If the cost price of an item is INR 129 and the selling price is INR 191, what is the profit and profit percentage?

Code

class Profit\_and\_percentage\_4{

public static void main(String args[]){

int cost\_price= 129;

int selling\_price = 191;

System.out.println("The Cost Price is INR 129 and Selling Price is INR 191");

int profit = selling\_price - cost\_price;

int profit\_percentage = profit/cost\_price \* 100;

System.out.println("The Profit is INR" + profit + "and the Profit Percentage is " + profit\_percentage);

}

}

Output

The Cost Price is INR 129 and Selling Price is INR 191

The Profit is INR62and the Profit Percentage is 0

Q5.If 14 pens are to be distributed equally among 3 students, how many pens does each student get, and how many remain undistributed?

code

class Pens\_Divided{

public static void main(String args[]){

int pen\_num = 14;

int student\_num = 3;

int remaning\_pens = pen\_num %student\_num;

int pen\_per\_student = pen\_num/student\_num;

System.out.println("The Pen Per Student is "+ pen\_per\_student + "and the remaining pen not distributed is " + remaning\_pens);

}

}

Output

The Pen Per Student is 4and the remaining pen not distributed is 2

Q6.A university charges INR 125000 for a course and offers a 10% discount. What is the discounted amount and the final fee the student has to pay?

Code

class Discount\_Price\_6{

public static void main(String args[]){

int University\_fee = 125000;

int discount\_amount = 10;

int discounted\_amount = (125000 \* 10)/100;

int final\_fee = University\_fee - discounted\_amount;

System.out.println("The discount amount is INR "+discounted\_amount+" and final discounted fee is INR " + final\_fee);

}

}

Output

The discount amount is INR 12500 and final discounted fee is INR 112500

Q7.Calculate the volume of Earth in cubic kilometers and cubic miles, given that the radius of Earth is 6378 km and the formula for the volume of a sphere is (4/3) \* π \* r³.

code  
import java.util.\*;

class volume\_of\_earth\_7{

public static void main(String args[]){

int radius\_kilometer = 6378;

double radius\_in\_miles = 6378 \* 1.6;

double volume\_in\_miles = (4/3)\* Math.PI \* Math.pow(radius\_in\_miles,3);

double volume\_in\_kilometer = (4/3)\* Math.PI\* Math.pow(radius\_kilometer,3);

System.out.println("The volume of earth in cubic kilometers is " + volume\_in\_kilometer + " and cubic miles is " + volume\_in\_miles);

}

}

Output

The volume of earth in cubic kilometers is 8.150859694071669E11 and cubic miles is 3.338592130691757E12

Q8.Convert a given distance in kilometers to miles using user input, where 1 mile = 1.6 km.

Code

import java.util.\*;

class kilometer\_to\_miles\_8 {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter distance in km: ");

double km = input.nextDouble();

double miles = km / 1.6;

System.out.println("The total miles is " + miles + " miles for the given " + km + " km.");

}

}

Output

Enter distance in km: 88

The total miles is 55.0 miles for the given 88.0 km.

Q9.If a university charges a student fee and provides a discount percentage based on user input, what is the discount amount and the final discounted fee?

Code

import java.util.\*;

class student\_feeCalculator\_9{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter student fee: ");

double fee = input.nextDouble();

System.out.print("Enter discount percentage: ");

double discountPercent = input.nextDouble();

double discount = (discountPercent / 100) \* fee;

double finalFee = fee - discount;

System.out.println("The discount amount is INR " + discount + " and final discounted fee is INR " + finalFee);

}

}

Output

Enter student fee: 1000

Enter discount percentage: 10

The discount amount is INR 100.0 and final discounted fee is INR 900.0

Q10.Convert a given height in centimeters to feet and inches, knowing that 1 foot = 12 inches and 1 inch = 2.54 cm.

Code

import java.util.\*;

class height\_converter\_10 {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter height in cm: ");

double heightCm = input.nextDouble();

double inches = heightCm / 2.54;

double feet = (int) (inches / 12);

inches = inches % 12;

System.out.println("Your Height in cm is " + heightCm + " while in feet is " + feet + " and inches is " + inches);

}

}

Output

Enter height in cm: 150

Your Height in cm is 150.0 while in feet is 4.0 and inches is 11.055118110236222

Q11.Perform addition, subtraction, multiplication, and division for two floating-point numbers provided by the user.  
Code

import java.util.\*;

class basic\_calculator\_11{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

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

double number1 = input.nextDouble();

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

double number2 = input.nextDouble();

System.out.println("Addition: " + (number1 + number2));

System.out.println("Subtraction: " + (number1 - number2));

System.out.println("Multiplication: " + (number1 \* number2));

if (number2 != 0) {

System.out.println("Division: " + (number1 / number2));

} else {

System.out.println("Division by zero is not allowed.");

}

}

}

Output

Enter first number: 10

Enter second number: 20

Addition: 30.0

Subtraction: -10.0

Multiplication: 200.0

Division: 0.5

Q12.Calculate the area of a triangle in square inches and square centimeters, given its base and height as user input.  
Code

import java.util.\*;

class triangle\_area\_calculator\_12 {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter base of the triangle in cm: ");

double base = input.nextDouble();

System.out.print("Enter height of the triangle in cm: ");

double height = input.nextDouble();

double areaCm = 0.5 \* base \* height;

double areaInches = areaCm / 6.4516;

System.out.println("Area of the triangle: " + areaCm + " square cm and " + areaInches + " square inches.");

}

}

Output

Enter base of the triangle in cm: 100

Enter height of the triangle in cm: 10

Area of the triangle: 500.0 square cm and 77.50015500031 square inches.

Q13.If the perimeter of a square is provided by the user, what is the length of its side?

Code

import java.util.\*;

class SquareSideCalculator\_13 {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter perimeter of square: ");

double perimeter = input.nextDouble();

double side = perimeter / 4;

System.out.println("The length of the side is " + side + " whose perimeter is " + perimeter);

}

}

Output

Enter perimeter of square: 30

The length of the side is 7.5 whose perimeter is 30.0

Q14.Convert a given distance in feet to yards and miles, where 1 mile = 1760 yards and 1 yard = 3 feet.

Code

import java.util.\*;

class FeetToYardsMilesConverter\_14 {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter distance in feet: ");

double distanceInFeet = input.nextDouble();

double yards = distanceInFeet / 3;

double milesFromFeet = yards / 1760;

System.out.println("The distance in yards is " + yards + " and in miles is " + milesFromFeet);

}

}

Output

Enter distance in feet: 3333

The distance in yards is 1111.0 and in miles is 0.63125

Q15.Calculate the total price of an item given its unit price and quantity purchased as user input.  
Code

import java.util.\*;

class PurchasePriceCalculator\_15 {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter unit price: ");

double unitPrice = input.nextDouble();

System.out.print("Enter quantity: ");

int quantity = input.nextInt();

double totalPrice = unitPrice \* quantity;

System.out.println("The total purchase price is INR " + totalPrice + " if the quantity is " + quantity + " and unit price is INR " + unitPrice);

}

}

Output

Enter unit price: 89

Enter quantity: 10

The total purchase price is INR 890.0 if the quantity is 10 and unit price is INR 89.0

Q16.Find the maximum number of handshakes possible among N students, using the formula (n \* (n - 1)) / 2.

Code

import java.util.\*;

class HandshakeCalculator\_16{

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Enter number of students: ");

int numberOfStudents = input.nextInt();

int handshakes = (numberOfStudents \* (numberOfStudents - 1)) / 2;

System.out.println("The maximum number of handshakes possible is " + handshakes);

}

}

Output

Enter number of students: 89

The maximum number of handshakes possible is 3916