(1)Ramesh’s basic salary is input through the keyboard. His dearness allowance is 40% of basic salary, and house rent allowance is 20% of basic salary. Write a program to calculate his gross salary.

#include<iostream>

using namespace std;

int main()

{

    float basic\_salary, gross\_salary, dallowance, house\_rent;

    cout<<"Enter basic salary: ";

    cin>>basic\_salary;

    if(basic\_salary<1500)

    {

        dallowance = 0.4 \* basic\_salary;

        house\_rent = 0.2 \* basic\_salary;

    }

    gross\_salary = basic\_salary + dallowance + house\_rent;

    cout <<"\n Basic Salary:  "<<basic\_salary;

    cout <<"\n Dearness Allowance:"<<dallowance;

    cout <<"\n House Rent: "<<house\_rent;

    cout <<"\n gross salary is : "<<gross\_salary;

    return 0;

}

(b) The distance between two cities (in km.) is input through the keyboard. Write a program to convert and print this distance in meters, feet, inches and centimeters.

#include<bits/stdc++.h>

using namespace std;

int main()

{

    float km, m, cm, f, in;

    cout << "Enter distance in kilometers: ";

    int distance;

    cin >> distance;

    if( distance > 0)

    {

    m = km \* 1000;

    cm = km \* 1000\*100;

    f = km \* 3280.84;

    in = km \* 39370.08;

    }

    cout <<"\n The distance in Feet: %f\n" << f;

    cout <<"\n The distance in Inches: %f\n" << in;

    cout <<"\n The distance in Meters: %f\n" << m ;

    cout <<"\n The distance in Centimeters: %f\n" << cm ;

    return 0;

}

(c) If the marks obtained by a student in five different subjects are input through the keyboard, find out the aggregate marks and percentage marks obtained by the student. Assume that the maximum marks that can be obtained by a student in each subject is 100.

#include <bits/stdc++.h>

using namespace std;

int main()

{

    float sub\_1, sub\_2, sub\_3, sub\_4, sub\_5;

    float total = 0.00, average = 0.00, percentage = 0.00;

    char grade;

    cout << "Enter the marks of five subjects:\n";

    cin >> sub\_1 >> sub\_2 >> sub\_3 >> sub\_4 >> sub\_5;

    total = sub\_1 + sub\_2 + sub\_3 + sub\_4 + sub\_5;

    average = total / 5.0;

    percentage = (total / 500.0) \* 100;

    if (average >= 90)

        grade = 'A';

    else if (average >= 80 && average < 90)

        grade = 'B';

    else if (average >= 70 && average < 80)

        grade = 'C';

    else if (average >= 60 && average < 70)

        grade = 'D';

    else

        grade = 'E';

    cout << "\nThe Total marks   = " << total << "/500\n";

    cout << "The Average marks = " << average << "\n";

    cout << "The Percentage    = " << percentage << "%\n";

    cout << "The Grade         = '" << grade << "'\n";

    return 0;

}

(d) Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into Centigrade degrees.

#include <iostream>

using namespace std;

int main()

{

    float frh, cel;

    cout << " Input the temperature in Fahrenheit : ";

    cin >> frh;

    cel = ((frh \* 5.0)-(5.0 \* 32))/9;

    cout << " The temperature in Celsius : " << cel;

    return 0;

}

(e) The length & breadth of a rectangle and radius of a circle are input through the keyboard. Write a program to calculate the area & perimeter of the rectangle, and the area & circumference of the circle.

#include <iostream>

#define PI 3.14159

using namespace std;

    int main()

    {

        float radius, area, circum;

        cout<<" Input the radius(1/2 of diameter) of a circle : ";

        cin>>radius;

        circum = 2\*PI\*radius;

        area = PI\*(radius\*radius);

        cout<<" The area of the circle is : "<< area;

        cout<<"\n The circumference of the circle is : "<< circum;

        return 0;

    }

(f) Two numbers are input through the keyboard into two locations C and D. Write a program to interchange the contents of C and D.

#include<bits/stdc++.h>

using namespace std;

int main()

{

    int C,D,A;

    cout<<"Enter the value of C"<<endl;

    cin>>C;

    cout<<"Enter the value of D"<<endl;

    cin>>D;

    A=C;

    C=D;

    D=A;

    cout<<"After interchanging the value of C is \n";

    cout<<C<<endl;

    cout<<"After interchanging the value of D is \n";

    cout<<D<<endl;

  return 0;

}