PROGRAMMING FUNDAMENTALS

Let's explore technology
together to live in the future

Checkout more on
https://github.com/Sy-hash-collab

Sy-hash-collab

Programing Exercises CH # 4 Input and Output

Write a program in c++ that inputs miles from the user and convert miles into kilometers .

#include <iostream> using namespace std; int main() { double miles, kilometers; cout << "Enter the distance in miles: "; cin >> miles;ile = 1.60934 kilometers kilometers = miles * 1.60934; cout << "The distance in kilometers is: " << kilometers << endl;

return 0;

}

Write a program in c++ that inputs age in years and displays age in days and months

```
int main ( )
{
int age_years , age_months , age_days ;
cout<<"Enter the age in years " ;
cin>>age_years;
age_months = age_years * 12 ;
age_days = age_years * 365 ;
cout<<"Age in months : " <<age_months<<endl;
cout<<"Age in days : " <<age_days;
return 0 ;
}
```

Write a program in c++ that inputs petrol in litres and displays how much distance the car can cover using the available petrol.

```
#include <iostream>

using namespace std;


int main()

{

   double petrol;

 double kmPerLitre = 15.0;

cout << "Enter the amount of petrol in litres: ";

   cin >> petrol;

 double distance = petrol * kmPerLitre;

cout << "The car can cover " << distance << " km with the available petrol." << endl;

   return 0;
```

Write a program in c++ that inputs total number of students in a class and fee per student

It displays total fee collected from class .

```
#include <iostream>

using namespace std;


int main() {

int num_students;

   float fee_per_student, total_fee;

 cout << "Enter the total number of students in the class: ";

cin >> num_students;

   cout << "Enter the fee per student: ";

   cin >> fee_per_student;

 total_fee = num_students * fee_per_student;

 cout << "Total fee collected from the class: " << total_fee << endl;

   return 0;
```

}

Write a program in c++ that inputs temperature from user in Fahrenheit and converts it into celsius degree using formula C = 5/9 (F - 32)

```
#include <iostream>


using namespace std;

int main() {

float fahrenheit, celsius;

 cout << "Enter temperature in Fahrenheit: ";

cin >> fahrenheit;

 celsius = (5.0/9.0) * (fahrenheit - 32);

cout << "Temperature in Celsius is: " << celsius << endl;

return 0;

}
```

Write a program in c++ that computes the area of sector of a circle when theta is theta angle in radians between the radii

```
#include <iostream>

#include <cmath>

using namespace std;

int main() {


   double radius, theta, area;

   cout << "Enter the radius of the circle: ";

   cin >> radius;

   cout << "Enter the angle in radians: ";

   cin >> theta;

 area = 0.5 * pow(radius, 2) * theta;

   cout << "The area of the sector is: " << area << endl;

   return 0;
```

```
}
```

Write a program in c++ that reads a positive number and then computes the logarithm of that value to the base 2

```
#include <iostream>

#include <cmath>

using namespace std;

int main() {

 double number;

cout << "Enter a positive number: ";

 cin >> number;

if (number <= 0) {

      cout << "Invalid input. Please enter a positive number." << endl;

      return 0;

   }

 double log2 = log2(number);

 cout << "Logarithm of " << number << " to the base 2 is " << log2 << endl;

   return 0;

}
```

Write a program in c++ to enter a letter and display the next two letters

```
#include <iostream>

using namespace std;

int main() {

   char letter;

   cout << "Enter a letter: ";

   cin >> letter;

   if ((letter >= 'a' && letter <= 'z') || (letter >= 'A' && letter <= 'Z'))

{
```

```
        char nextLetter = letter + 1;
        cout << "The next letter is " << nextLetter;
        char nextNextLetter = letter + 2;
        cout << " and the letter after that is " << nextNextLetter << endl;
    }
else {
        cout << "Invalid input. Please enter a letter." << endl;
    }
    r e t u r n   0 ;
}
```

Write a program in c++ that inputs basic salary and calculates 35% dearness allowance , 25% house rent and then displays the gross salary.

```
#include <iostream>
using namespace std;
int main() {
 float basic_salary, dearness_allowance, house_rent, gross_salary;
    cout << "Enter basic salary: ";
    cin >> basic_salary;
 dearness_allowance = 0.35 * basic_salary;
    house_rent = 0.25 * basic_salary;
 gross_salary = basic_salary + dearness_allowance + house_rent;
cout << "Gross salary: " << gross_salary << endl;
    return 0;
}
```

Write a program in c++ that inputs a number and displays its corresponding ASCII code

```
#include <iostream>
using namespace std;
```

```
int main() {
 int num;
 cout << "Enter a number: ";
cin >> num;
 cout << "The ASCII code for " << num << " is " << char(num) << endl;
   return 0;
}
```

Write a program in c++ that inputs marks obtained by a student in five subjects . It then calculates and displays the total marks and percentage

```
#include <iostream>
using namespace std;
int main() {
 int marks[5];
int totalMarks = 0;
cout << "Enter the marks obtained in 5 subjects:\n";
 for (int i = 0; i < 5; i++) {
   cout << "Subject " << (i+1) << ": ";
 cin >> marks[i];
totalMarks += marks[i];
}
 float percentage = (float)totalMarks / 5.0;
cout << "Total marks: " << totalMarks << endl;
 cout << "Percentage: " << percentage << "%" << endl;
return 0;
}
```

Write a program in c++ to calculate simple interest . It inputs principal amount , rate of interest and the number of years and displays simple interest

```
#include <iostream>
using namespace std;
int main() {
float principal, rate, time, interest;
 cout << "Enter the principal amount: ";
   cin >> principal;
   cout << "Enter the rate of interest: ";
   cin >> rate;
 cout << "Enter the number of years: ";
 cin >> time;
interest = (principal * rate * time) / 100;
cout << "Simple interest = " << interest << endl;
   return 0;
}
```

Write a program that inputs time in seconds and converts ot into hh-mm-ss format .

```
#include <iostream>
using namespace std;
int main( )
{
int sec , s , m , h ;
cout<<"Enter time in seconds : ";
cin>>sec;
h = sec / 3600 ;
sec= sec % 3600 ;
m = sec / 60 ;
 s = sec % 60 ;
cout<< " HH-MM-SS = " <<h<<":"<<m<<":"<<s ;
```

```
}
```