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# 01.WAP to print "Welcome to Cybrom"

#include <iostream>

using namespace std;”

int main()

{     cout<<"welcome to cybrom"; }

output:welcome to cybrom

# 02.WAP to print your name 4 time

#include <iostream>

using namespace std;

int main()

{cout<<"amarth" <<endl;

cout<<"amarth"<<endl;

cout<<"amarth"<<endl;

cout<<"amarth"<<endl;

      return 0;

}

# 03.wap to take any interger from user and print it

#include <iostream>

using namespace std;

int main()

{ int a;

cout<<"enter any number";

cin>>a;

cout<<"your number is "<<a;

}

output:enter any number20

your number is 20

# 04.wap to take character from user and print it

#include <iostream>

using namespace std;

int main()

{    char  a;

        cout<<"write any character"<<endl;

        cin>>a;

        cout<<"your character is "<<a;

}

output:write any character

a

your character is a

# 05.WAP to take any decimal value from user and print it

#include <iostream>

using namespace std;

int main()

{   float a;

cout<<"enter any decimal number"<<endl;

cin>>a;

cout<<"your number is " <<a;

 return 0;

}

output:enter any decimal number

10.22

your number is 10.22

# 06.wap add two number

#include <iostream>

using namespace std;

int main()

{  int a ,b ,c;

cout<<"enter first number"<<endl;

cin>>a;

cout<<"enter second number"<<endl;

cin>>b;

cout<<"sum to two number is " <<a+b;

      return 0;

}

output:

enter first number

10

enter second number

10

sum to two number is 20

# 07.wap to take two number from user and perform mathematical calculation

#include <iostream>

using namespace std;

int main()

{int a,b;

cout<<"enter first number"<<endl;

cin>>a;

cout<<"enter second number"<<endl;

cin>>b;

cout<<"sum to two number is "<<a+b <<endl;

cout<<"sub to two number is "<<a-b <<endl;

cout<<"mul to two number is "<<a\*b <<endl;

cout<<"div to two number is "<<a/b <<endl;

cout<<"rem to two number is "<<a%b <<endl;

}

output:

enter first number

80

enter second number

40

sum to two number is 120

sub to two number is 40

mul to two number is 3200

div to two number is 2

rem to two number is 0

# 08.wap calculate simple interest formula simple interest =(( principal \* rate of interest \* time in year)/100)

#include <iostream>

using namespace std;

int main()

{     int principal , rate\_of\_intrest , time\_in\_year;

      cout<<" calculate simple interest "<<endl;

      cout<<"enter principal"<<endl;

      cin>>principal;

    cout<<"enter rate of interest"<<endl;

    cin>>rate\_of\_intrest;

    cout<<"enter time is year"<<endl;

    cin>>time\_in\_year;

    cout<<"simple interest = " <<((principal\*rate\_of\_intrest\*time\_in\_year)/100);

      return 0;

}

output:

calculate simple interest

enter principal

1000

enter rate of interest

10

enter time is year

5

simple interest = 500

# 09.wap to calculate area of geometrical object

//area of square a\*2

//area of reactangle = L\*W

//AREA OF TRIANGLE = (1/2 \*BASE \* HEIGHT)

//AREA OF CIRCLE = PI \*R \*2

#include <iostream>

#define PI 3.14

using namespace std;

int main(){

    float length , width ,radius ,side ,BASE,height ,AREA;

      cout<<"find tha area of square"<<endl;

      cout<<"enter length of square"<<endl;

      cin>>AREA;

      cout<<"area of square is " <<AREA\*AREA <<endl;

      cout<<endl;

      cout<<"find tha area of rectangle"<<endl;

      cout<<"enter length of  rectangle"<<endl;

      cin>>length;

      cout<<"enter width of  rectangle"<<endl;

      cin>>width;

      cout<<"area of reactangle is " <<length\*width<<endl;

      cout<<endl;

      cout<<"find tha area of triangle"<<endl;

      cout<<"enter height of triangle "<<endl;

      cin>>height;

      cout<<"enter base of triangle"<<endl;

      cin>>BASE;

      cout<<"area of  is triangle" <<(1/2\*height\*BASE)<<endl;

      cout<<endl;

      cout<<"find tha area of CIRCLE"<<endl;

      cout<<"enter RADIUS of square"<<endl;

      cin>>radius;

      cout<<"area of CIRCLE is " <<(PI\*radius\*radius)<<endl;

}

output:find tha area of square

enter length of square

50

area of square is 2500

find tha area of rectangle

enter length of  rectangle

40

enter width of  rectangle

50

area of reactangle is 2000

find tha area of triangle

enter height of triangle

40

enter base of triangle

100

area of  is triangle0

find tha area of CIRCLE

enter RADIUS of square

50

area of CIRCLE is 7850

# 10.WAP to find the greater number from 2 number;

#include <iostream>

using namespace std;

int main()

{     float number1,number2;

    cout<<"enter number 1"<<endl;

    cin>>number1;

    cout<<"enter number 2"<<endl;

    cin>>number2;

    if (number1>number2)

    {

        cout<<"greater number is = "<<number1<<endl;

    }

    else{

        cout<<"greater number is = "<<number2<<endl;

    }

      return 0;

}

output:

enter number 1

50

enter number 2

1000

greater number is = 1000

# 11.WAP to compare three number nested if

#include <iostream>

using namespace std;

int main()

{     float number1,number2,number3;

    cout<<"enter number 1"<<endl;

    cin>>number1;

    cout<<"enter number 2"<<endl;

    cin>>number2;

    cout<<"enter number 3"<<endl;

    cin>>number3;

    if (number1>number2)

    {

             if (number1>number3)

             {

                cout<<"greater is number 1=" <<number1<<endl;

             }

             }

    if (number2>number1 && number2>number3)

    {

        cout<<"greater is number 2 =" <<number2;

       }

    if (number3>number1 && number3>number3)

    {

        cout<<"greater is number 3 =" <<number3;

     }}

#include <iostream>

using namespace std;

int main() {

  int num1, num2, num3;

  cout << "Enter three numbers: ";

  cin >> num1 >> num2 >> num3;

  if (num1 > num2) {

    if (num1 > num3) {

      cout << num1 << " is the largest number.\n";

    }

    else {

      cout << num3 << " is the largest number.\n";

    }

  }

  else {

    if (num2 > num3) {

      cout << num2 << " is the largest number.\n";

    }

    else {

      cout << num3 << " is the largest number.\n";

    }

  }

}

# 12.WAP TO PERFORM TRUE OR FALSE .USING RELATION OPERATOR

Relational operators compare numeric, character string, or logical data. The result of the comparison, either true ( 1 ) or false ( 0 ), can be used to make a decision regarding program flow (see the IF statement).

#include <iostream>

using namespace std;

int main()

{

    bool a=10,b=10,c=5;

    cout<<"enter two number "<<endl;

    c=a==b;                            //output:1

    cout<<c <<endl;

    c= a>=b;

    cout<<c;                            //output:1

}

#include <iostream>

using namespace std;

int main()

{

int x1 = 10, x2 = 20, m = 2;

bool b1, b2;

// false

b1 = x1 == x2;

// true

b2 = x1 < x2;

cout << "Bool1 is = " <<

        b1 << "\n";

cout << "Bool2 is = " <<

        b2 << "\n";

bool b3 = true;

if (b3)

|  |
| --- |
| output:  Bool1 is = 0  Bool2 is = 1  Yes  9 |

    cout << "Yes" << "\n";

else

    cout << "No" << "\n";

int x3 = false + 5 \* m - b3;

cout << x3;

return 0;}

# 13.WAP check number is even or odd

#include <iostream>

using namespace std;

int main()

{

    int a;

    cout<<"enter number"<<endl;

    cin>>a;

    if (a%2==0)

    {

        cout<<"even";

    }

    else{

        cout<<"odd";

    }

}

output:

enter number

2

Even

# 14.WAP to check days in a week using switch case

#include <iostream>

using namespace std;

int main()

{     int days;

    cin>>days;

    switch (days)

    {

    case 1:

        cout<<"monday";

        break;

    case 2:

        cout<<"tuesday";

        break;

    case 3:

        cout<<"wed";

        break;

    case 4:

        cout<<"thus";

        break;

    case 5:

        cout<<"fri";

        break;

    case 6:

        cout<<"sat";

        break;

    case 7:

        cout<<"sunday";

        break;

    default:

        cout<<"invalid enter";

    }

      return 0;

}

# 15.WAP C++ program to returns day based on the numeric value.

#include<iostream>

using namespace std;

class Day

{

    private:

        int day;

    public:

        void set\_data()

        {

            cout<<"Enter no of day you want to display: ";

            cin>>day;

        }

        void display\_day()

        {

            switch (day)

            {

                case 1:

                    cout<<"MONDAY";

                    break;

                case 2:

                    cout<<"TUESDAY";

                    break;

                case 3:

                    cout<<"WEDNESDAY";

                    break;

                case 4:

                    cout<<"THURSDAY";

                    break;

                case 5:

                    cout<<"FRIDAY";

                    break;

                case 6:

                    cout<<"SATURDAY";

                    break;

                case 7:

                    cout<<"SUNDAY";

                    break;

                default:

                    cout<<"INVALID INPUT";

                    break;

            }

        }

};

main()

{

    Day d1;

    d1.set\_data();

    d1.display\_day();

}

output:

Enter no of day you want to display: 7

SUNDAY

# 16.C program to demonstrate syntax of switch

#include <iostream>

using namespace std;

int main()

{

    char x ;

    cin>>x;

    switch (x) {

    case 'A':

        cout<<"Choice is A";

        break;

    case 'B':

    cout<<"Choice is B";

        break;

    case 'C':

        cout<<"Choice is C";

        break;

    default:

        cout<<"Choice other than A, B and C";

        break;

    } }

OUTPUT:

A

Choice is A

#include <iostream>

using namespace std;

int main() {

char n='C';

switch(n)

{

    case 'A':

    case 'B':

    cout<<"A and B";

    break;

    case 'C':

    case 'D':

    cout<<"C and D\n";

    break;

    default:cout<<"Alphabet is greater than D";

    break;}}

# 17.WAP TO ADD BILL GENERATION OF CAFE SWITCH CASE

#include <iostream>

using namespace std;

int main()

{

    int select,total,quantity;

    cout<<"SELECT \n 1.Coffee \n 2.Tea \n 3.Cold Drink \n";

    cin>>select;

    switch (select)

    {

    case 1:

        cout<<"you selectd coffe , now select quantity "<<endl;

        cin>>quantity;

        total=quantity\*5;

        cout<<"total = "<<total;

        break;

    case 2:

        cout<<"you selectd tea , now select quantity "<<endl;

        cin>>quantity;

        total=quantity\*10;

        cout<<"total = "<<total;

        break;

    case 3:

        cout<<"you selectd cold drink , now select quantity "<<endl;

        cin>>quantity;

        total=quantity\*15;

        cout<<"total = "<<total;

        break;

    default:

        cout<<"invalid select";

    }

      return 0;

}

output:

SELECT

 1.Coffee

 2.Tea

 3.Cold Drink

1

you selectd coffe , now select quantity

2

total = 10

# 18.WAP To MAKE CALCULATOR USING  CAFE SWITCH CASE

#include <iostream>

using namespace std;

int main()

{

    int select,a,b,total;

   cout<<"SELECT \n 1.ADDITION \n 2.SUBSTRACTION \n 3.MULTYPLY \n 4.DIVISION \n";

    cin>>select;

    switch (select)

    {

    case 1:

        cout<<"you selectd ADDITION , now select "<<endl;

        cout<<"Enter TWO number "<<endl;

        cin>>a >>b;

        cout<<"add  = "<<a+b;

        break;

    case 2:

        cout<<"you selectd sub , now select "<<endl;

        cout<<"Enter TWO number "<<endl;

        cin>>a >>b;

        cout<<"add  = "<<a-b;

        break;

    case 3:

        cout<<"you selectd mul , now select "<<endl;

        cout<<"Enter TWO number "<<endl;

        cin>>a >>b;

        cout<<"add  = "<<a\*b;

|  |
| --- |
| output:   1.ADDITION   2.SUBSTRACTION   3.MULTYPLY   4.DIVISION  1  you selectd ADDITION , now select  Enter TWO number  2  2  add  = 4 |

        break;

    case 4:

        cout<<"you selectd mul , now select "<<endl;

        cout<<"Enter TWO number "<<endl;

        cin>>a >>b;

        cout<<"add  = "<<a/b;

        break;

    default:

        cout<<"invalid select";

    }

      return 0;

}

# 19.wap to print 1 to 10 using while loop

#include <iostream>

using namespace std;

int main()

{     int a=1 ;

     while (a<=10)

     {cout<<a <<" ";

        a++;

     }

      return 0;

}

output:

1       2       3       4       5       6       7       8       9       10

# 20.wap to print a table of any number using while loop .

#include <iostream>

using namespace std;

int main()

{   int a,i=1;

    cout<<"enter  number of table"<<endl;

    cin>>a;

    while ( i<=10)

    {  cout<<a <<" x " <<i <<" = " <<a\*i<<endl;

      i++;

    }

}

output:

enter  number of table

2

2 x 1 = 2

2 x 2 = 4

2 x 3 = 6

2 x 4 = 8

2 x 5 = 10

2 x 6 = 12

2 x 7 = 14

2 x 8 = 16

2 x 9 = 18

2 x 10 = 20

# 21.WAP to reverse a number taken from user

#include <iostream>

using namespace std;

int main() {

    int num, reversed\_num = 0, remainder;

    cout<<"Enter your number for reverse"<<endl;

    cin>>num;

    while (num!=0)

    {

        remainder=num%10;

        reversed\_num=reversed\_num \* 10 + remainder;

        num=num/10;

    }

    cout<<"Reversed number is = "<<reversed\_num;

}

output:

Enter your number for reverse

1234

Reversed number is = 4321

explaination

    while(123 != 0)condition true while loop  execuate

    { remainder = 123 % 10;

        reversed\_num = 0 \* 10 + 3; (3)

        num=123/10; (12) }

      while(12 != 0)condition true while loop  execuate

      { remainder = 12 % 10; (2)

        reversed\_num = 3 \* 10 + 2; (32)

        num=12/10; (1)}

      while(1 != 0) condition true while loop  execuate

      { remainder = 1 % 10; (1)

        reversed\_num = 32 \* 10 + 1; (321)

        num=1/10; (0) }

while(0 != 0)  condition false while loop not execuate

      { remainder = 1 % 10; (1)

        reversed\_num = 32 \* 10 + 1; (321)

        num=1/10; (0) }

# 22.WAP to check number is prime or not using loop

//prime number is which is divided by 1 or itself

//so if number is prime it has 2 factore

#include <iostream>

using namespace std;

int main()

{  int number ,count=0;

   cout<<"Enter your number "<<endl;

   cin>>number;

   for (int i = 1; i <= number; i++)

   {

    if (number%i==0)

    {

        count++;

    }

    }

   if (count==2)

   {

    cout<<"number is prime"<<endl;

   }

   else{

    cout<<"number is not prime";

   }

}

output:

Enter your number

7

number is prime

# 23.WAP to make pattern using nested loop . right angle triangle;

#include <iostream>

using namespace std;

int main()

{   int a;

     cout<<"enter number of row";

    cin>>a;

    for (int i = 1; i <= a; i++)                    //raw

    {

        for (int j = 1; j <= i ; j++)              //column

        {

           cout<<"\*";

        }

        cout<<endl;

    }

}

output:

enter number of row5

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*\*\*

# what is difference between ++i and i++ in c++

In C++, ++i and i++ are both increment operators that increase the value of a variable by 1. However, they differ in when the increment occurs.

++i is the pre-increment operator, which means that it increments the value of i before using its value in the expression. That is, the value of i is incremented immediately, and then the new value of i is used in the expression. For example:

int i = 5;

int j = ++i; // i is incremented to 6, and then assigned to j

In this example, the value of i is incremented to 6 before it is assigned to j.

On the other hand, i++ is the post-increment operator, which means that it increments the value of i after using its value in the expression. That is, the current value of i is used in the expression, and then the value of i is incremented. For example:

int i = 5;

int j = i++; // i is assigned to j, and then incremented to 6

In this example, the current value of i (which is 5) is assigned to j, and then i is incremented to 6.

So the main difference between ++i and i++ is when the increment takes place, and this can affect the behavior of expressions that use these operators.

# 24.WAP to make pattern using nested loop . pyramid

#include <iostream>

using namespace std;

int main() {

    int n, i = 1, j, k;

    cout << "Enter the number of rows: ";

    cin >> n;

    while (i <= n) {

        // Print spaces

        j = 1;

        while (j <= n - i) {

            cout << " ";

            j++;

|  |
| --- |
| output:  Enter the number of rows: 5      \*     \*\*\*    \*\*\*\*\*   \*\*\*\*\*\*\*  \*\*\*\*\*\*\*\*\* |

        }

        // Print stars

        k = 1;

        while (k <= 2 \* i - 1) {

            cout << "\*";

            k++;

        }

        cout << endl;

        i++;

    }

    return 0;

}

explanation

In this program, the user is prompted to enter the number of rows they want in the pyramid. The program then uses a while loop to print out each row of the pyramid. The outer while loop runs from 1 to the number of rows entered by the user. The inner while loops are used to print out the spaces and stars for each row.

The variable i is used to keep track of the current row being printed, j is used to print the spaces, and k is used to print the stars. The number of spaces on each row is equal to n - i, and the number of stars is equal to 2 \* i - 1. The endl statement is used to move to the next line after printing each row.

#include <iostream>

using namespace std;

int main()

{

    int n ,i ,j ,k;

    cin>>n;

    for (int i = 1; i <= n; i++)

    {

        for (int j = 1; j <= n-i; j++)

        {

            cout<<" ";

        }

        for (int k = 1; k <=2\*i-1 ; k++)

        {

            cout<<"\*";

        }

        cout<<endl;

    }

      return 0;

}

output:

5

    \*

   \*\*\*

  \*\*\*\*\*

 \*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*

# 25.inverted pyramid

#include <iostream>

using namespace std;

int main() {

    int rows;

    cout << "Enter the number of rows: ";

    cin >> rows;

    // outer loop for rows

    for (int i =rows; i >= 1; i--)

    {

        for (int j = rows; j > i; j--) {

            cout<<" ";

        }

        for (int k = 1; k < (i\*2); k++)

        {

        cout<<"\*";

        }

        cout << endl;

    }

    return 0;

}

output:

Enter the number of rows: 5

\*\*\*\*\*\*\*\*\*

 \*\*\*\*\*\*\*

  \*\*\*\*\*

   \*\*\*

    \*

#include <iostream>

using namespace std;

int main() {

    int rows,i,j,k;

    cout << "Enter the number of rows: ";

    cin >> rows;

i =rows;

while (i>=1)

{

    j=rows;

    while (j>=i)

{

    cout<<" ";

    j--;

}

k=1;

while (k<(i\*2))

{

    cout<<"\*";

    k++;

}

cout<<endl;

   i--;

}

}

output:

Enter the number of rows: 5

 \*\*\*\*\*\*\*\*\*

  \*\*\*\*\*\*\*

   \*\*\*\*\*

    \*\*\*

     \*

# 26.WAP TO MAKE PATTERN USING NESTED LOOP - STAR CROSS

#include <iostream>

using namespace std;

int main()

{   int i, j, N;

    int count;

    cout<<"Enter N: ";

    cin>>N;

    count = N \* 2 - 1;

    for(i=1; i<=count; i++)

    {

        for(j=1; j<=count; j++)

        {

            if(j==i || (j==count - i + 1))

            {

                cout<<"\*";

            }

            else

            {

                 cout<<" ";

            }

        }

        cout<<"\n";

    }

}

output:

Enter N: 5

\*       \*

 \*     \*

  \*   \*

   \* \*

    \*

   \* \*

  \*   \*

 \*     \*

\*       \*

#include <iostream>

using namespace std;

int main() {

  // size of cross, use odd number

  int size = 5;

  for (int i = 0; i < size; i++)

  {

    for (int j = 0; j < size; j++)

    {

      if (i==j || i+j==size-1)

      {

        cout << "\*";

      } else {

        cout << " ";

      }

    }

    cout << "\n";

  }

  return 0;

}

output:

\*   \*

 \* \*

  \*

 \* \*

\*   \*

explanation

first row started

1.first loop =for (int i = 0; i < size; i++) = for (int i = 0; 0 < 5; i++)true

2. second loop= for (int j = 0; j < size; j++) =for (int j = 0; 0 < 5; j++) true

3.if (i==j || i+j==size-1) =if (0==0 || 0+0==5-1)  (one condition is true) one \* is print.

4.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 1 < 5; j++) true

5.if (i==j || i+j==size-1) =if (0==1 || 0+1==5-1)  (false)

6.else statment execute cout<<" "; =(one space)

7.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 2 < 5; j++) true

8.if (i==j || i+j==size-1) =if (0==2 || 0+2==5-1)  (false)

9.else statment execute cout<<" "; =(second space)

10.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 3 < 5; j++) true

11.if (i==j || i+j==size-1) =if (0==3 || 0+3==5-1)  (false)

12.else statment execute cout<<" "; =(third space)

13.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 4 < 5; j++) true

14.if (i==j || i+j==size-1) =if (0==4 || 0+4==5-1)  (true) second \* print

first row completed .

second row started

1.first loop =for (int i = 0; i < size; i++) = for (int i = 0; 1 < 5; i++)true

2.second loop= for (int j = 0; j < size; j++) =for (int j = 0; 0 < 5; j++) true

3.if (i==j || i+j==size-1) =if (1==0 || 1+0==5-1)  (false) else condtion execute " "first space.

4.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 1 < 5; j++) true

5.if (i==j || i+j==size-1) =if (1==1 || 1+1==5-1)  (true) first star

6.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 2 < 5; j++) true

7.if (i==j || i+j==size-1) =if (1==2 || 1+2==5-1)  (false)

8.else statment execute cout<<" "; =(second space)

9.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 3 < 5; j++) true

10.if (i==j || i+j==size-1) =if (1==3 || 1+3==5-1)  (true) second star

11.again second loop =for (int j = 0; j < size; j++) = for (int j = 0; 4 < 5; j++) true

12.if (i==j || i+j==size-1) =if (1==4 || 1+4==5-1)  (false) third space

second row completed .

# 27.wap to declare an interger array of length 20 and input the multiple of 2 starting from 2 in the array

#include <iostream>

using namespace std;

int main() {

    int a[20]; // Declare integer array of length 20

  for (int i = 0, j=2; i < 20 ; i++ ,j=j+2)

  {

     a[i]=j;

  }

    // Print out the array

    for (int i = 0; i < 20; i++) {

        cout << a[i] << " ";

    }

    return 0;

}

output:

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40

# 28.wap to input  an interger array of length five and add all the element of the array

#include <iostream>

using namespace std;

int main()

{ int a[5] ,sum=0;

 for (int i = 0; i <5; i++)

 { cout<<"enter value of index " <<i <<" = ";

   cin>>a[i];

  cout<<"value of index "<<i <<" is " <<a[i]<<endl;

   cout<<endl;}

  for (int i = 0; i < 5; i++)

    {

        sum=sum+a[i];

    }

    cout<<"sum of array = "<<sum;

      return 0;

}

output:

enter value of index 0 = 1

value of index 0 is 1

enter value of index 1 = 2

value of index 1 is 2

enter value of index 2 = 3

value of index 2 is 3

enter value of index 3 = 4

value of index 3 is 4

enter value of index 4 = 5

value of index 4 is 5

sum of array = 15

#include <iostream>

using namespace std;

int main()

{

    int a[5] ,sum=0;

    for (int i = 0,j=1; i <5; i++,j++)

    {

       a[i]=j;

       cout<<"value of index "<<i <<" is " <<a[i]<<endl;

       cout<<endl;

    }

    for (int i = 0; i < 5; i++)

    {

        sum=sum+a[i];

    }

    cout<<"sum of array = "<<sum;

      return 0;

}

output:

value of index 0 is 1

value of index 1 is 2

value of index 2 is 3

value of index 3 is 4

value of index 4 is 5

sum of array = 15

# 29.wap to reverse an interger array of length 10

#include <iostream>

|  |
| --- |
| output:  enter array element :  10  20  30  40  50  reverse array element :50       40      30      20      10 |

using namespace std;

int main()

{     int a[5];

       cout<<"enter array element :";

       for (int i = 0; i < 5; i++)

       {

        cin>>a[i];

       }

       cout<<"reverse array element :";

       for (int i = 4; i >=0 ; i--)

       {

        cout<<a[i] <<"\t";

       }

      return 0;

}

#include <iostream>

using namespace std;

int main()

{     int a[10];

       cout<<"enter array element :";

       for (int i = 0,j=1; i < 10; i++,j++)

       { a[i]=j;}

for (int i = 0,j=1; i < 10; i++,j++)

       {cout<<a[i]<<"\t";}

       cout<<"\n";

       cout<<"reverse array element :";

       for (int i = 9; i >=0 ; i--)

       {

        cout<<a[i] <<"\t";

       }

      return 0;

}

output:

enter array element   :1       2       3       4       5       6       7       8       9       10

reverse array element :10       9       8       7       6       5       4       3       2       1

# 30.wap to input 10 number in an array and display only the even number if present in array

#include <iostream>

using namespace std;

int main()

{     int a[10];

       cout<<"enter array element :";

       for (int i = 0,j=1; i < 10; i++,j++)

       {

         a[i]=j;

       }

        for (int i = 0; i < 10; i++)

       {

         cout<<a[i]<<"\t";

       }

       cout<<"\n";

        cout<<"even number in given array is : ";

        for (int i = 0; i < 10; i++)

       {

         if (a[i]%2==0)

         {

            cout<<a[i]<<"\t";

         }

        }

      return 0;

}

output:

enter array element :1  2       3       4       5       6       7       8       9       10

even number in given array is : 2       4       6       8       10

# 31.wap to declaration ,initialization ,and accesing of element of a 3x3 two dimensional array .

#include <iostream>

using namespace std;

int main()

{

    int a[2][3]={{1,2,3},{4,5,6}}  ;

    for (int i = 0; i < 2; i++)

    {

        for (int j = 0; j < 3; j++)

        {

            cout<<"a["<<i <<"]" <<"["<<j<<"]"  <<" = "<<a[i][j] <<endl;

        }

    }

      return 0;

}

output:

a[0][0] = 1

a[0][1] = 2

a[0][2] = 3

a[1][0] = 4

a[1][1] = 5

a[1][2] = 6

//wap to add two matrix .

#include <iostream>

using namespace std;

|  |
| --- |
| output:  first matrix  1       2       3  4       5       6  second matrix  1       2       3  4       5       6  sum matrix of first and second matrix  2       4       6  8       10      12 |

int main()

{

    int a[2][3]={{1,2,3},{4,5,6}}  ;

 cout<<"first matrix"<<endl;

    for (int i = 0; i < 2; i++)

    {

        for (int j = 0; j < 3; j++)

        {

            cout<<a[i][j] <<"\t";

        }

        cout<<endl;

    }

     cout<<"second matrix"<<endl;

    for (int i = 0; i < 2; i++)

    {

        for (int j = 0; j < 3; j++)

        {

            cout<<a[i][j] <<"\t";

        }

        cout<<endl;

    }

    cout<<"sum matrix of first and second matrix"<<endl;

    for (int i = 0; i < 2; i++)

    {

        for (int j = 0; j < 3; j++)

        {

            cout<<a[i][j] + a[i][j]<<"\t";

        }

        cout<<endl;

    }

      return 0;

}

|  |
| --- |
| output:  a[0][0][0]=1  a[0][0][1]=2  a[0][1][0]=3  a[0][1][1]=4  a[0][2][0]=4  a[0][2][1]=6  a[1][0][0]=7  a[1][0][1]=8  a[1][1][0]=9  a[1][1][1]=10  a[1][2][0]=11  a[1][2][1]=12 |

# 32.wap to declaration ,initialization ,and accesing of element of a  three dimensional array .

#include <iostream>

using namespace std;

int main()

{

    int a[2][3][2]=

    {

        {{1,2},{3,4},{4,6}},

        {{7,8},{9,10},{11,12}}

    };

    for (int i = 0; i < 2; i++)

    {

        for (int j = 0; j < 3; j++)

        {

            for (int z = 0; z < 2; z++)

            {

                cout<<"a["<<i <<"]" <<"["<<j<<"]" <<"["<<z<<"]="  <<a[i][j][z] <<endl;

            }

        }

    }

}

# 33.wap to display "welcome to cybrom " using function .

#include <iostream>

using namespace std;

void print(){

    cout<<"welcome to cybrom";

}

int main()

{  print();

      return 0;

}

output:

welcome to cybrom

# 34.wap to create a calculator using function.

#include <iostream>

using namespace std;

int calculator(int a ,int b){

  char c;

  cout<<"what you want to do + , - , / , \*"<<endl;

  cin>>c;

  switch (c)

  {

  case '+':

    return a+b;

    break;

  case '-':

    return a-b;

    break;

  case '/':

    return a/b;

    break;

   case '\*':

    return a\*b;

    break;

  default:

    cout<<"invalid enter";

  }

}

int main()

{   int a , b,c;

   cout<<"enter two number"<<endl;

   cin>>a >>b;

   c=calculator(a,b);

   cout<<c;

}

output:

enter two number

40

50

what you want to do + , - , / , \*

-

-10

# 35.wap to print a factorial of a number using function.

n!=n\*(n-1)\*(n-2)\*(n-3)\*(n-4)\*..........

#include <iostream>

using namespace std;

|  |
| --- |
| // output:  enter a number  7  factorial of = 7 is 5040 |

int factorial(int a)

{

    long sum=1;

     for (int i = 1; i <= a; i++)

    {

        sum=sum\*i;

    }

      return sum;

}

int main()

{

int a ;

cout<<"enter a number "<<endl;

cin>>a;

cout<<"factorial of = " <<a <<" is "<<factorial(a);

 }

|  |
| --- |
| Explanation  int factorial(int 3) {      if (3 == 1) {return 1;} false      else { return 3 \* factorial(2);}}   int factorial(int 2) {      if (2 == 1) {return 1;} false      else { return 2 \* factorial(1);}}       int factorial(int 1) {      if (1 == 1) {return 1;} true so it retrn 1 |

#include <iostream>

using namespace std;

int factorial(int n) {

    if (n == 1) {

        return 1;

    } else {

        return n \* factorial(n-1);

    }

}

int main() {

    int n;

    cout << "Enter a number: ";

    cin >> n;

    cout << n << "! = " << factorial(n) << endl;

}

// output:

// Enter a number: 3

// 3! = 6

# 36.wap to find the armstrong number

An Armstrong number of three digits is an integer such that the sum of the cubes of its digits is equal to the number itself. For example, 371 is an Armstrong number since 3\*\*3 + 7\*\*3 + 1\*\*3 = 371.

Three-digit numbers are 000, 001, 002, ..., 009, 010, 011, ..., 019, 020, 021, 022, ..., 099, 100, 101, 102, ..., 109, 110, ... 990, 991, ..., 999.

abcd... = an + bn + cn + dn +

armstrong number of 3 digit

#include <iostream>

using namespace std;

int armstrong(int a){

    int  originalNum, remainder, result = 0;

    originalNum = a;

    while (a != 0) {

       // remainder contains the last digit

        remainder = a % 10;

       result =result + remainder \* remainder \* remainder;

       // removing last digit from the orignal number

       a=a/ 10;

    }

    if (result == originalNum){

        cout<<originalNum<<" : is an Armstrong number.";}

    else{

        cout<<originalNum <<" : is not an Armstrong number.";

    }

return 0;

}

int main()

{     int a=153,b;

      b=armstrong(a);

      cout<<b;

      return 0;

}

output:153 : is an Armstrong number.0

# pow() function is used to find the power of given number

#include <iostream>

#include <cmath>

using namespace std;

int main() {

 // computes 5 raised to the power 3

  cout << pow(5, 3);

  return 0;

}

// Output: 125

#include <iostream>

#include <cmath>

using namespace std;

int main()

{

    int number , result=0 ,power=0,ori\_number,remainder;

    cin>>number;

    ori\_number=number;

      while (number!=0)

      {

        number=number/10;

        power++;

      }

     while (number!=0)

     {

        remainder=number%10;

        result=result+pow(remainder,power);

        number=number/10;

     }

     if (result=ori\_number)

     {

        cout<<"armstrong";

     }

     else{

        cout<<"not an armstrong";

     }

}

output:

1634

armstrong

#include <iostream>

#include <cmath>

using namespace std;

bool isArmstrong(int num) {

    int originalNum, remainder, result = 0, n = 0;

    originalNum = num;

    while (originalNum != 0) {

        originalNum =originalNum/ 10;

        n++;

    }

    originalNum = num;

    while (originalNum != 0) {

        remainder = originalNum % 10;

        result =result+ pow(remainder, n);

        originalNum =originalNum /10;

    }

    if (result == num)

        return true;

    else

        return false;

}

int main() {

    int num;

    cout << "Enter a three-digit number: ";

    cin >> num;

    if (isArmstrong(num))

        cout << num << " is an Armstrong number." << endl;

    else

        cout << num << " is not an Armstrong number." << endl;

    return 0;

}

output:

Enter a three-digit number: 1634

1634 is an Armstrong number.

# 37.wap type 1 to calculate the area of circle using function

//without arugument without return type

#include <iostream>

#define PI 3.14159265358979323846

using namespace std;

void calculateArea() {

    float radius, area;

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

    cin >> radius;

    area = PI \* radius \* radius;

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

}

int main() {

    calculateArea();

}

output:

Enter the radius of the circle: 50

The area of the circle is: 7853.98

# 38.wap type 1 to swap a number using third variable

//without argument without return type

#include <iostream>

using namespace std;

|  |
| --- |
| output:  enter value a : 10  enter value b : 50  value of a is : 50  value of b is : 10 |

void swap(){

    int a,b,c;

    cout<<"enter value a : ";

    cin>>a;

    cout<<"enter value b : ";

    cin>>b;

    c=a;

    a=b;

    b=c;

    cout<<"value of a is : "<<a <<endl;

    cout<<"value of b is : "<<b;

}

int main()

{     swap();

      return 0;}

# 39.wap to type 2 convert the centigrade into fahrenhit

//without argument with return value

#include <iostream>

using namespace std;

|  |
| --- |
| output:  enter centigrade :10  fahrenhit : 50 |

int centigrade\_to\_fahrenhit(){

    int centigrade ,fahrenhit;

    cout<<"enter centigrade :";

    cin>>centigrade;

    fahrenhit=(centigrade \* 9/5) + 32;

    return fahrenhit;

}

int main()

{   float temp;

    temp=centigrade\_to\_fahrenhit();

    cout<<"fahrenhit : "<<temp;

      return 0;

}

# 40.wap type 2 to calculate power of number , power and number will be given by a user.

without argument with return value

#include <iostream>

#include <cmath>

using namespace std;

int power (){

    float power ,number;

    cout<<"enter the power :" ;

    cin>>power;

    cout<<"enter the number :";

    cin>>number;

    return pow(number,power);

}

int main()

{     float a;

      a=power();

      cout<<"answer :"<<a;

}

output:

enter the power :2

enter the number :5

answer :25

#include <iostream>

#include <cmath>

using namespace std;

int power (){

|  |
| --- |
| output:  enter the base :5  enter the power :2  answer :25 |

    float power ,base ,result=1;

    cout<<"enter the base :" ;

    cin>>base;

    cout<<"enter the power :";

    cin>>power;

    for (int i = 1; i <= power; i++)

    {

        result=result\*base;

    }

    return result;

}

int main()

{     float a;

      a=power();

      cout<<"answer :"<<a;

      return 0;

}

# 41.wap  type 3 to pass an array of length 5 and find its mean

with argument without return type ;

#include <iostream>

using namespace std;

int mean(int a[]){

    int sum =0;

    for (int i = 0; i < 5; i++)

    {

         sum=sum+a[i];

    }

    cout<<sum/5;

}

int main()

{   int a[5]={1,2,3,4,5};

    mean(a);

}

output: 3

#include <iostream>

using namespace std;

int mean(int a[],int size){

    int sum=0;

    for (int i = 0; i < size; i++)

    {

        sum=sum+a[i];

    }

    cout<<"mean : "<<sum/size;

}

int main()

{   int a[5]={1,2,3,4,5};

    int size;

    size=sizeof(a)/sizeof(int);                //find the size of array

    mean(a,size);

}

output:

mean : 3

# 42.wap type 3 to check given number is int or float

//with argument without return type ;

#include <iostream>

using namespace std;

void checkNumber(double num) {

  if (num == (int)num) {

    cout << num << " is an integer." << endl;

  } else {

    cout << num << " is a float." << endl;

  }

}

int main() {

  double num;

  cout << "Enter a number: ";

  cin >> num;

  checkNumber(num);

}

output:

Enter a number: 10.54

10.54 is a float.

# 43.wap type 4 to sum the digit of a given number

//with argument with return value

#include <iostream>

|  |
| --- |
| output:  10  10  20 |

using namespace std;

double sum(int a ,int b){

      return a+b;

}

int main()

{   int a ,b;

    cin>>a >>b;

    cout<<sum(a,b);

}

# 44.wap type 4 to print the decimal number of a given number

//with argument with return value

#include <iostream>

using namespace std;

double decimal\_number(double a){

    double b;

    b=a - int(a);

    return b;

}

int main()

{   double number , decimal;

    cout<<"Enter a decimal number : ";

    cin>>number;

    cout<<"decimal part of given number is :"<<decimal\_number(number);

}

output:

Enter a decimal number : 10.45

decimal part of given number is :0.45

# 45.wap to swap two number  using call by reference

#include <iostream>

using namespace std;

void swap(int &a ,int &b){

    int temp;

    temp=a;

    a=b;

    b=temp;

      cout<<"\nafter swap value of a is : "<<a <<" and value of b is : "<<b;

}

int main()

{    int a , b;

     cout<<"Enter two number "<<endl;

     cin>>a >>b;

     cout<<"before swap value of a is : "<<a <<" and value of b is : "<<b;

     swap(a,b);

     cout<<"\nafter swap value of a is : "<<a <<" and value of b is : "<<b;

}

Enter two number

5

7

before swap value of a is : 5 and value of b is : 7

after swap value of a is : 7 and value of b is : 5

after swap value of a is : 7 and value of b is : 5

# 46.wap to swap two number using call  by value .

//swap by \* and /

#include <iostream>

|  |
| --- |
| output:  Before swap a= 5 b= 10  After swap a= 10 b= 5 |

using namespace std;

int main()

{

int a=5, b=10;

cout<<"Before swap a= "<<a<<" b= "<<b<<endl;

a=a\*b; //a=50 (5\*10)

b=a/b; //b=5 (50/10)

a=a/b; //a=10 (50/5)

cout<<"After swap a= "<<a<<" b= "<<b<<endl;

return 0;

}

#include<iostream>

using namespace std;

void swap(int a,int b)

{       int c;

        c=a;

        a=b;

        b=c;

cout<<"\nInside Function After Swapping, Value of :: \nA = "<<a<<" B = "<<b<<"\n";

}

int main()

{

        int a,b;

        cout<<"Enter Value Of A :: ";

        cin>>a;

        cout<<"\nEnter Value of B :: ";

        cin>>b;

        cout<<"\nBefore Swapping, Value of :: \nA = "<<a<<" B = "<<b<<"\n";

        swap(a,b);

        cout<<"\nOutside Function After Swapping, Value of :: \n A = "<<a<<" B = "<<b<<"\n";

}

output:

Enter Value Of A :: 10

Enter Value of B :: 20

Before Swapping, Value of ::

A = 10 B = 20

Inside Function After Swapping, Value of ::

A = 20 B = 10

Outside Function After Swapping, Value of ::

 A = 10 B = 20

Swap by using + and -

#include <iostream>

using namespace std;

int main()

{

int a=5, b=10;

cout<<"Before swap a= "<<a<<" b= "<<b<<endl;

a=a+b; //a=15 (5+10)

b=a-b; //b=5 (15-10)

a=a-b; //a=10 (15-5)

cout<<"After swap a= "<<a<<" b= "<<b<<endl;

return 0;

}

output:

Before swap a= 5 b= 10

After swap a= 10 b= 5

# 47.wap to convert hours to minutes and second .

#include <iostream>

using namespace std;

void convert(float a){

    cout<<a <<" hours = " <<a\*60 <<" minutes" <<endl;

    cout<<a <<" hours = " <<a\*3600 <<" second";

}

int main()

{     float a ;

      cin>>a;

      convert(a);

      return 0;

}

output:

1.5

1.5 hours = 90 minutes

1.5 hours = 5400 second

# 48.wap to perform mathematical expression with function overloading .

|  |
| --- |
| output:  20  30 |

#include <iostream>

using namespace std;

int sum(int a ,int b ,int c){

    return a +b +c;

}

int sum(int a ,int b ){

    return a +b;

}

int main()

{     int a=10,b=10,c=10,d;

     cout<<sum(a,b) <<endl;

     cout<<sum(a,b,c);

}

# 49.wap to handle different type of data by function overloading

# wap to perform mathematical expression with function overloading .

#include <iostream>

using namespace std;

int sum(int a ,int b ){

    return a +b ;

}

double sum(double a ,double b ){

    return a +b;

}

int main()

{   int a =sum(10,10);

   double b=sum(10.10,50.4);

   cout<<a<<endl;

   cout<<b;

}

output:

20

60.5

50.wap to take input full name and print it .

|  |
| --- |
| output:  amarth patel  hello amarth patel |

#include <iostream>

using namespace std;

int main()

{

    string a;

    getline(cin,a);

    cout<<"hello "<<a;

      return 0;

}

# 51.wap to initialize the string and concatenaate two string

 #include <iostream>

using namespace std;

int main()

{

    string a="amarth ",b="patel";

    cout<<a.append(b);

      return 0;

}

output:amarth patel

# 52.wap to reverse a string which is given by user .

 #include <iostream>

 #include<algorithm>

using namespace std;

int main()

{

    string a;

    cout<<"enter your name for reverse output : ";

    getline(cin,a);

    reverse(a.begin(),a.end());

    cout<<"reverse : "<<a;

      return 0;

}

output:

enter your name for reverse output : amarth patel

reverse : letap htrama

# 53.wap to find 'e' character in string 'good evening' using string function

 #include <iostream>

using namespace std;

int main()

{

    string a="good evening";

    cout<<a.find("e");

      return 0;

}

output: 5

# 54.wap to find the length of string which is given by user

#include <iostream>

using namespace std;

int main()

{

    string a="good evening";

    cout<<a.length();

}

output:

12

# 55.write a program to store and print the roll no, name , age , and marks of a student using structure

#include <iostream>

using namespace std;

    struct student {

        int roll\_no;

        string name;

        int age;

    };

int main()

{  student school;

cout<<"enter roll no.:";

cin>>school.roll\_no;

cout<<"\nenter name:";

cin>>school.name;

cout<<"\nenter age:";

cin>>school.age;

cout<<"rollno.:"<<school.roll\_no <<" " <<"name:"<<school.name <<" "<<"age:"<<school.age;

      return 0;

}

output:

enter roll no.:03

enter name:amarth

enter age:18

rollno.:3 name:amarth age:18

# 56.wap using structure to accept and display employee details and also calculate the total payment of workers

#include <iostream>

using namespace std;

struct Employee{

|  |
| --- |
| OUTPUT:  Enter Employee Full Name : amarth patel  Enter Designation : S.E  Enter Employee ID : 456  Enter Salary : 123  Enter Employee Full Name : PATEL  Enter Designation : W.D  Enter Employee ID : 789  Enter Salary : 123  amarth patel 456 S.E 123  PATEL 789 W.D 123  total payment :246 |

    string name ;

    string designation;

    double ID;

    double salary ; };

int main()

{ Employee worker[2];

 double  total\_payment=0;

for (int i = 0; i < 2; i++)

{

    cout<<"Enter Employee Full Name : ";

    getline(cin,worker[i].name);

    cout<<"Enter Designation : ";

    getline(cin,worker[i].designation);

    cout<<"Enter Employee ID : ";

    cin>>worker[i].ID;

    cout<<"Enter Salary : ";

    cin>>worker[i].salary;

   cin.ignore();

    total\_payment=total\_payment+worker[i].salary;

}

for (int i = 0; i < 2; i++)

{

    cout<<worker[i].name <<" " <<worker[i].ID<<" " <<worker[i].designation<<" " <<worker[i].salary <<endl;

}

cout<<"total payment :" <<total\_payment;

}

# 57.wap to add two distance in inch-feet using structure . the value of the distance is to be taken from the user .

|  |
| --- |
| output:  Enter feet for first distance: 10  Enter inches for first distance: 13  Enter feet for second distance: 10  Enter inches for second distance: 12  The sum of distances is: 22 feet 1 inches |

#include <iostream>

using namespace std;

struct Distance {

    int feet;

    int inches;

};

int main() {

    Distance d1, d2, sum;

    // Taking the input for first distance

    cout << "Enter feet for first distance: ";

    cin >> d1.feet;

    cout << "Enter inches for first distance: ";

    cin >> d1.inches;

    // Taking the input for second distance

    cout << "Enter feet for second distance: ";

    cin >> d2.feet;

    cout << "Enter inches for second distance: ";

    cin >> d2.inches;

    // Adding the distances

    sum.inches = d1.inches + d2.inches;

    sum.feet = d1.feet + d2.feet;

    // Converting extra inches to feet if any

    if (sum.inches >= 12) {

        sum.feet =sum.feet+ sum.inches / 12;

        sum.inches = sum.inches % 12;

    }

    // Displaying the sum of distances

    cout << "The sum of distances is: " << sum.feet << " feet " << sum.inches << " inches" << endl;

    return 0;

}

# 58.create a class named 'student ' with a string variable 'name' and an interger variable 'roll\_no.' .Assign the value of roll\_no as'2' and that of name as "john" by creating an object of the class student

#include <iostream>

using namespace std;

class student {

    public:

    string name;

    int roll\_no;

};

int main()

{   student s1;

     s1.name="john";

     s1.roll\_no=2;

     cout<<s1.name <<" "<<s1.roll\_no  ;

      return 0;

}

output:

john 2

# 59.wap to print the area and perimeter of a triangle and take sides from user creating a classs named 'trinagle' with a function to print the area and perimeter

// perimeter of triangle = a+b+c

// Area of a Triangle = 1/2 × b × h

#include <iostream>

using namespace std;

class Triangle {

public:

int height ,base ,side1 ,side2 ,side3;

int area(int b, int h)

{ return 0.5\*b\*h;};

int perimeter\_of\_triangle(int a,int b,int c){

  return a+ b +c ;

|  |
| --- |
| output:  enter height of triangle :100  enter base of triangle :100  area of triangle : 5000  find perimetr of triangle :  enter side1 of triangle :100  enter  side2 of triangle :110  enter   side3 of triangle :100  perimetr of triangle : 310 |

};

};

int main() {

Triangle area1 , perimeter;

cout<<"enter height of triangle :";

cin>>area1.height;

cout<<"enter base of triangle :";

cin>>area1.base;

cout<<"area of triangle : "<<area1.area(area1.height,area1.base)<<endl;

cout<<"\n find perimetr of triangle : \n";

cout<<"enter side1 of triangle :";

cin>>perimeter.side1;

cout<<"enter  side2 of triangle :";

cin>>perimeter.side2;

cout<<"enter   side3 of triangle :";

cin>>perimeter.side3;

cout<<"perimetr of triangle : "<<perimeter.perimeter\_of\_triangle(perimeter.side1,perimeter.side2,perimeter.side3);

    return 0;}

# 60.WAP TO FIND sum of all odd number between 1-100 using class.

#include <iostream>

using namespace std;

class odd{

public:

int number,sum=0 ;

 int oddd(){

    for (int i = 1; i <= 100; i++)

    {

        if (i%2!=0)

        {

          sum=sum+i;

        }

    }

    cout<<sum;

 };

};

int main()

{

odd sum;

sum.oddd();

return 0;

}

**output== 2500;**