

C++ Basic PROGRAMS

1]. FIBONACCI SERIES IN C++

ATUL KUMAR (LINKEDIN).
NOTES GALLERY (TELEGRAM).

```
#include <iostream>
using namespace std;
int main()
{
    int n1, n2, n3, i, number
    n1 = 0;
    n2 = 1;
    cout << "enter the number of elements : ";
    cin >> number;
    cout << n1 << n2 << " ";
    for(i=2; i<number; i++)
    {
        n3 = n1 + n2;
        cout << n3 << " ";
        n1 = n2;
        n2 = n3;
    }
    return 0;
}
```

Output:- enter the number of element : 10
 0 1 1 2 3 5 8 13 21 34.

2]. PRIME NUMBER PROGRAM IN C++

```
#include <iostream>
using namespace std;
int main( )
```

```

int n, i, m=0, Flag = 0;
Cout << "enter number to check prime: ";
Cin >> n;
m = n/2;
for(i=2; i<=m; i++)
{
    if(n % i == 0)
    {
        Cout << "number is not prime" << endl;
        flag = 1;
        break;
    }
}
if(flag == 0)
{
    Cout << "number is prime" << endl;
}
return 0;
}

```

Output:-

- enter a number to check prime : 20
number is not prime.
- enter a number to check prime : 17
number is prime.

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3]. PALINDROME NUMBER IN C++

→ The palindrome number is same after reverse.

Example:- 121, 32123, 2372732

→ #include <iostream>
using namespace std;
int main()

```

→ { int n, r, sum = 0, temp;
    cout << "enter the number = ";
    cin >> n;
    temp = n;
    while (n > 0)
    {
        r = n % 10;
        sum = (sum * 10) + r;
        n = n / 10
    }
    if (temp == sum)
        cout << "number is palindrome.";
    else
        cout << "number is not palindrome.";
    return 0;
}
  
```

Output :-

- enter the number = 12321
number is Palindrome.
- enter the number = 120
number is not Palindrome.

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4]. FACTORIAL PROGRAM IN C++

```

→ #include <iostream>
Using namespace std;
int main()
{
    int i, fact1, number;
    cout << "enter any number : ";
    cin >> number;
  
```

→ for(*i*=1; *i* ≤ number; *i*++) {
 fact = fact * *i*;
} cout << "factorial of " << number << is : "
 << fact << endl;
 return 0;

Output:- enter any number : 5
 factorial of. 5 is : 120.

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5]. C++ PROGRAM TO SWAP TWO NUMBER WITHOUT USING
 THIRD VARIABLE :

⇒ #include<iostream>
 using namespace std;
 int Main ()
{
 int a = 20 , b = 50.
 cout << "Before swap a = " << a << "b = " << b;
 a = a + b || a = 70 (20 + 50)
 b = a - b || b = 20 (70 - 50)
 a = a - b || a = 50 (70 - 20)
 Cout << "after swap a = " << a << "b = " << b;
 return 0;
}

Output:-

Before swap a = 20 , b = 50.
 After swap a = 50 , b = 20.

6]. C++ PROGRAM TO PRINT HALF STAR PYRAMID PATTERN:

→ # include <iostream>
using namespace std;
int main ()

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```
{  
    int n, j, i ;  
    cout << " enter the number of rows : " ;  
    cin >> n ;  
    for ( i = 1 , i <= n , i ++ )  
    {  
        for ( j = 1 , j <= i , j ++ )  
        {  
            cout << "*" ;  
        }  
        cout << "\n " ;  
    }  
    return 0 ;  
}
```

Output:-

enter number rows : 5

★
★ ★
★ ★ ★
★ ★ ★ ★
★ ★ ★ ★ ★

7].

C++ PROGRAM FOR FULL ★ PYRAMID:



```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

{

```
    int rows i j spaces;
```

```
    cout << "enter number rows:";
```

```
    cin >> rows;
```

```
    for(i=i, i<=rows; i++)
```

{

```
        for(spaces=i; spaces < rows; spaces++)
```

{

```
            cout << "   ";
```

}

```
        for(j=1; j<=2(2*i-1); j++)
```

{

```
            cout << "★ "
```

}

```
            cout << "\n ";
```

}

```
    return 0;
```

}

Output:-

```
★
```

```
★★
```

```
★★★
```

```
★★★★★
```

```
★★★★★★
```

```
★★★★★★★
```

```
★★★★★★★★
```

enter number of rows

: 7

8]. SUM OF DIGIT PROGRAM C++ :



```
#include <iostream>
using namespace std;
int main()
{
    int n, sum = 0, m;
    cout << "enter a number : ";
    cin >> n;
    while (n > 0)
    {
        m = n % 10
        sum = sum + m;
        n = n / 10;
    }
    cout << "sum is = " << sum << endl;
    return 0;
}
```

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Output:-

enter a number = 55
sum is 10.