

Reverse an elements in an array:

```
#include<iostream>
using namespace std;
int main()
{
    int arr[10], l,n;
    cout<<"Enter the no. of elemet"<<endl;
    cin>>n>> endl;
    cout<<"Enter the "<<n<<" Array Elements: ";
    for(i=0; i<n; i++)
        cin>>arr[i];
    cout<<"\n The Original Array is: \n";
    for(i=0; i<n; i++)
        cout<<arr[i]<<" ";
    cout<<"\n\nThe Reverse of Given Array is:\n";
    for(i=(n-1); i>=0; i--)
        cout<<arr[i]<<" ";
    cout<<endl;
    return 0;
}
```

Reverse a string

```
#include<iostream>
#include<stdio.h>
using namespace std;
int main()
{
    char str[200], ch;
    int len, i=0, j;
    cout<<"Enter the String: ";
    gets(str);
    while(str[i]!='\0')
        i++;
    len = i;
    i = 0;
    j = len-1;
    while(i<j)
    {
        ch = str[i];
        str[i] = str[j];
        str[j] = ch;
        i++;
        j--;
    }
    cout<<"\nReverse = "<<str;
    cout<<endl;
    return 0;
}
```

Algorithm of string reversing

Input: string_to_reverse

Output: reverse_string

Process: read string (instring)

Length=length of string in char (instring)

If length is even then

 Length_mid=length/2

Else

 Length_mid= (length/2)+1

Endif

For imd=0 to length_mid do

Reverse_string= reverse_string+swap

Swap = (substring (string_to_reverse(imd),
 substring(string_to_reverse(length_imd)))

next

return reversestring

End

Numerical series

$$X = X - \frac{X^3}{3!} + \frac{X^5}{5!} - \frac{X^7}{7!} + \dots$$

Input: X,N

Output: seriesvalue

Start: sum=X

For ind=3 to N step 2

Sum = sum+power(X,ind)/fact(N)

Sum=sum*-1

Next.ind

Series_value=sum

End

Algorithm fact(ind)

Fact=1

For i=1 to ind

Fact =fact*i

Next

Return fact

End fact

Algorithm power (X,ind)

Power =1

for i= 1to ind

power=power*X

end for

return power

end power

Write a program in C++ that deletes an element and prints the new array

```
#include<iostream>
using namespace std;
int main() {
    int arr[100], tot, i, elem, j, found=0;
    cout<<"Enter the Size: ";
    cin>>tot;
    cout<<"Enter "<<tot<<" Array Elements: ";
    for(i=0; i<tot; i++)
        cin>>arr[i];
    cout<<"\nEnter Element to Delete: ";
    cin>>elem;
    for(i=0; i<tot; i++) {
        If (arr[i]==elem) {
            for(j=i; j<(tot-1); j++)
                arr[j] = arr[j+1];
            found=1;
            i--;
            tot--;
        } }
    if(found==0)
        cout<<"\nElement doesn't found in the Array!";
    else {
        cout<<"\nElement Deleted Successfully!";
        cout<<"\n\nThe New Array is:\n";
        for(i=0; i<tot; i++)
            cout<<arr[i]<<" ";
    }
    cout<<endl;
    return 0; }
```

fibonacci in recursive

```
#include <iostream>
using namespace std;
int fib(int x) {
    if((x==1) || (x==0)) {
        return(x);
    }else {
        return(fib(x-1)+fib(x-2));
    }
}
int main() {
    int x , i=0;
    cout << "Enter the number of terms of series : ";
    cin >> x;
    cout << "\nFibonnaci Series : ";
    while(i < x) {
        cout << " " << fib(i);
        i++;
    }
    return 0;
}
```

Factorial with recursive

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

int fact(int num)
{
    if(num <= 1)
        return(1);
    else
        return(num * fact(num-1));
}

int main ()
{
    int num;

    cout << "Enter a number: ";
    cin >> num;

    cout << "\nFactorial of " << num << " is " << fact(num)
    << endl;

    return 0;
}
```

Find the last element in the array

```
#include<iostream>

using namespace std;

int main()
{
    int arr[10], i,n;

    cout<<"Enter the no. of elements"<<endl;

    cin>>n;

    cout<<"Enter  " << n<<"Array Elements: ";

    for(i=0; i<n; i++)

        cin>>arr[i];

    cout<<"\nThe last element in  Array is:\n";

        cout<<arr[n-1]<<" ";

    cout<<endl;

    return 0;

}
```

$$y = y - \frac{1}{3!} + \frac{1}{5!} - \frac{1}{7!} + \dots$$

```
#include<iostream>
using namespace std;
int fact(int num)
{
    if(num <= 1)
        return(1);
    else
        return(num * fact(num-1));
}
int main () {
    int num,sign=1;
    double temp,y=0.0;
    cout << "Enter a number: ";
    cin >> num;
    for (int i=1;i<num;i+=2){
        temp=(double)1/fact(i);
        y+=sign*temp;
        sign *=-1;
    }
    cout << "\nFactorial of " << num << " is " << fact(num) <<
endl;
    cout<<y;
    return 0;
}
```

Find the power of the number

```
#include <iostream>
using namespace std;
int main()
{
    int power;
    float base, result = 1;
    cout << "Enter base and power respectively: ";
    cin >> base >> power;
    cout << base << "^" << power << " = ";
    while (power != 0) {
        result *= base;
        --power;
    }
    cout << result;
    return 0;
}
```

Iteration	result *= base	exponent	exponent != 0	Execute Loop?
1 st	5	3	true	Yes
2 nd	25	2	true	Yes
3 rd	125	1	true	Yes
4 th	625	0	false	No

