

1. Write a Program to swap two numbers

```
#include <iostream>
using namespace std;
// Swapping of two Numbers..

int main()
{
    int num_1, num_2, temp;
    cout << "Enter the value of First Number: ";
    cin >> num_1;
    cout << "Enter the value of Second Number: ";
    cin >> num_2;

    // Swapping
    temp = num_1;
    num_1 = num_2;
    num_2 = temp;
    cout << "\nValues after Swapping" << endl;
    cout << "First number: " << num_1 << endl;
    cout << "Second number: " << num_2 << endl;

    return 0;
}
```

2. Write a Program to swap two numbers without 3rd variable

```
#include <iostream>
using namespace std;
// Swapping of two Numbers without third variable..

int main()
{
    int num_1, num_2;
    cout << "Enter the value of First Number: ";
    cin >> num_1;
    cout << "Enter the value of Second Number: ";
    cin >> num_2;

    // Swapping
    num_1=num_1+num_2;
    num_2=num_1-num_2;
    num_1=num_1-num_2;
    cout << "\nValues after Swapping" << endl;
    cout << "First number: " << num_1 << endl;
    cout << "Second number: " << num_2 << endl;
}
```

```
    return 0;
}
```

3. Write a Program to Generate a star Pattern

```
*
**
***
```

```
#include <iostream>
using namespace std;
// Star Pattern
int main()
{
    int n;
    cout << "Enter the number of rows: ";
    cin >> n;
    for (int i = 1; i <= n; i++)
    {
        for (int j = 1; j <= i; j++)
        {
            cout << "*";
        }
        cout << "\n";
    }
    return 0;
}
```

4. Write a Program to generate number pattern

```
1
12
123
```

```
#include <iostream>
using namespace std;
// Star Pattern
int main()
{
    int n;
    cout << "Enter the number of rows: ";
    cin >> n;
    for (int i = 1; i <= n; i++)
    {
        for (int j = 1; j <= i; j++)
        {
```

```

        cout << j;
    }
    cout << "\n";
}
return 0;
}

```

5. Write a Program to generate a character pattern

```

A
BB
CCC

```

```

#include <iostream>
using namespace std;
// Star Pattern
int main()
{
    int n;
    char c = 'A';
    cout << "Enter the number of rows: ";
    cin >> n;
    for (int i = 1; i <= n; i++)
    {
        for (int j = 1; j <= i; j++)
        {
            cout << c;
        }
        c++;
        cout << "\n";
    }
    return 0;
}

```

6. Write a Program to create array and sum and average of elements of array

```

#include <iostream>
using namespace std;

int main()
{
    // Declaring Array
    int size;
    cout << "Enter the size of the Array" << endl;
    cin >> size;
    int arr[size], add = 0;
    float avg;
    cout << "Enter the Elements of the Array" << endl;
}

```

```

for (int i = 0; i < size; i++)
{
    cin >> arr[i];
}
cout << "\nDisplaying the Elements of the Array" << endl;
for (int i = 0; i < size; i++)
{
    cout << arr[i] << endl;
}

// Addition of the elements of the array

for (int i = 0; i < size; i++)
{
    add += arr[i];
}
cout << "\nAddition of the elements of the array is: " << add << endl;
// average
avg = (float)add / size;
cout << "\nAverage of the elements of the array is: " << avg << endl;
return 0;
}

```

7. Write a Program to find largest or smallest element in array

```

#include <iostream>
using namespace std;

int main()
{
    // Declaring Array
    int size;
    cout << "Enter the size of the Array" << endl;
    cin >> size;
    int arr[size], add = 0;
    float avg;
    cout << "Enter the Elements of the Array" << endl;
    for (int i = 0; i < size; i++)
    {
        cin >> arr[i];
    }
    cout << "\nDisplaying the Elements of the Array" << endl;
    for (int i = 0; i < size; i++)
    {
        cout << arr[i] << endl;
    }
    // Finding largest array Element

```

```

int largest = arr[0];
for (int i = 0; i < size; i++)
{
    if (largest < arr[i])
    {
        largest = arr[i];
    }
}
cout << "\nLargest: " << largest << endl;
// Finding Smallest array Element
int smallest = arr[0];
for (int i = 0; i < size; i++)
{
    if (smallest > arr[i])
    {
        smallest = arr[i];
    }
}
cout << "Smallest: " << smallest;
return 0;
}

```

8. Write a Program to find second largest element in array

```

#include <iostream>
using namespace std;

int main()
{
    // Declaring Array
    int size;
    cout << "Enter the size of the Array" << endl;
    cin >> size;
    int arr[size], add = 0;
    float avg;
    cout << "Enter the Elements of the Array" << endl;
    for (int i = 0; i < size; i++)
    {
        cin >> arr[i];
    }
    cout << "\nDisplaying the Elements of the Array" << endl;
    for (int i = 0; i < size; i++)
    {
        cout << arr[i] << endl;
    }
}

```

```

// Sorting in Ascending order
for (int i = 0; i < size; i++)
{
    for (int j = i + 1; j < size; j++)
    {
        if (arr[i] > arr[j])
        {
            int temp = arr[i];
            arr[i] = arr[j];
            arr[j] = temp;
        }
    }
}
cout << "Elements after sorting\n";
for (int i = 0; i < size; i++)
{
    cout << arr[i] << endl;
}
cout << "Second Largest is: " << arr[size-2] << endl;
return 0;
}

```

9. Write a Program to print reverse list

```

#include <iostream>
using namespace std;

int main()
{
    int size;
    cout << "Enter the size of the List: ";
    cin >> size;
    int arr[size];
    cout << "Enter the Elements of the list" << endl;
    for (int i = 0; i < size; i++)
    {
        cin >> arr[i];
    }
    cout << "Displaying the elements of list" << endl;
    for (int i = 0; i < size; i++)
    {
        cout << arr[i] << " ";
    }
    cout << "\nReverse List" << endl;
    for (int i = size-1; i >=0; i--)
    {
        cout << arr[i] << " ";
    }
}

```

```
}  
return 0;  
}
```