1. Write a C++ program to read and print elements of array.

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| #include <bits/stdc++.h>  using namespace std;  int main() {  int numbers[5];  cout << "Enter 5 numbers: " << endl;  // store input from user to array  for (int i = 0; i < 5; ++i) {  cin >> numbers[i];  }  cout << "The numbers are: ";  // print array elements  for (int n = 0; n < 5; ++n) {  cout << numbers[n] << " ";  }  return 0;  } |

1. Write a C++ program to print all negative elements in an array.

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| #include <bits/stdc++.h>  using namespace std;    int main()  {  int arr[100];  int i, num;  cout<<"Enter size of the array: ";  cin>>num;  cout<<"Enter elements in array: ";  for(i=0; i<num; i++)  {  cin>>arr[i];  }    cout<<"All negative elements in array are:";  for(i=0; i<num; i++)  {  if(arr[i] < 0)  {  cout<<arr[i];  }  }    return 0;  } |

1. Write a C++ program to find sum and average of all array elements.

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| #include <bits/stdc++.h> using namespace std;  int main() {    double numbers[] = {7, 5, 6, 12, 35, 27};  double sum = 0;  double count = 0;  double average;  cout << "The numbers are: ";  for (const double &n : numbers) {  cout << n << " ";  sum += n;  ++count;  }  cout << "\nTheir Sum = " << sum << endl;  average = sum / count;  cout << "Their Average = " << average << endl;  return 0;  } |

1. Write a C++ program to find maximum and minimum element in an array.

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| #include <bits/stdc++.h>  using namespace std;  int main ()  {  int arr[10], n, i, max, min;  cout << "Enter the size of the array : ";  cin >> n;  cout << "Enter the elements of the array : ";  for (i = 0; i < n; i++)  cin >> arr[i];  max = arr[0];  for (i = 0; i < n; i++)  {  if (max < arr[i])  max = arr[i];  }  min = arr[0];  for (i = 0; i < n; i++)  {  if (min > arr[i])  min = arr[i];  }  cout << "Largest element : " << max;  cout << "Smallest element : " << min;  return 0;  } |

1. Write a C++ program to find second largest element in an array.

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| #include <bits/stdc++.h>  using namespace std;  int main(){  int n, num[50], largest, second;  cout<<"Enter number of elements: ";  cin>>n;  for(int i=0; i<n; i++){  cout<<"Enter Array Element"<<(i+1)<<": ";  cin>>num[i];  }  if(num[0]<num[1]){  largest = num[1];  second = num[0];  }  else{  largest = num[0];  second = num[1];  }  for (int i = 2; i< n ; i ++) {  if (num[i] > largest) {  second = largest;  largest = num[i];  }  else if (num[i] > second && num[i] != largest) {  second = num[i];  }  }  cout<<"Second Largest Element in array is: "<<second;  return 0;  }  O |

1. Write a C++ program to count total number of even and odd elements in an array.

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| #include <bits/stdc++.h>  using namespace std;  int main()  {  int arr[100];  int i,size,odd=0,even=0;  cout<<"Enter size of the array\n";  cin>>size;  cout<<"\nEnter elements of the array\n\n";  for(i=0; i<size; i++)  {  cout<<"Enter the element arr["<<i<<"] :";  cin>>arr[i];  }  for(i=0; i<size; i++)  {  if(arr[i]%2==0)  {  even++;  }  else{  odd++;  }  }  cout<<"\nTotal even numbers of an array :"<<even<<"\n";  cout<<"Total odd numbers of an array : "<<odd;  getch();  return 0;  } |

1. Write a C++ program to count total number of positive, negative and zero elements in an array.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  int main()  {  int a[100],i,n,zero=0,pos=0,neg=0;    cout<<"Enter The Size of An Array :\n";  cin>>n;  cout<<"Enter The Element :\n";  for(i=0;i<n;i++)  {  cin>>a[i];  }  cout<<"Elment in Array is Given Below\n";  for(i=0;i<n;i++)  {  if(a[i]>0)  pos++;  else if(a[i]<0)  neg++;  else  zero++;  }  cout<<"\nPositive No. is = "<<pos;  cout<<"\nNegative No. is = "<<neg;  cout<<"\nTotal Zero in array is = "<<zero;  return 0;  } |

1. Write a C++ program to copy all elements from an array to another array.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  int main() {  int arr1[10], arr2[10], i, n;  cout << "Enter size of an array:";  cin>>n;  cout << "Enter array elements:";  for (i = 0; i < n; i++) {  cin >> arr1[i];  }  for (i = 0; i < n; i++) {  arr2[i] = arr1[i];  }  cout << "Copy Array List is:";  for (i = 0; i < n; i++) {  cout << arr2[i] << " ";  }  return 0;  } |

1. Write a C++ program to insert an element in an array.

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| #include <bits/stdc++.h>  using namespace std;    int\* insertX(int n, int arr[], int x, int pos)  {  int i;  n++;  for (i = n; i >= pos; i--)  arr[i] = arr[i - 1];  arr[pos - 1] = x;  return arr;  }  int main()  {  int arr[100] = { 0 };  int i, x, pos, n = 10;  for (i = 0; i < 10; i++)  arr[i] = i + 1;  for (i = 0; i < n; i++)  cout << arr[i] << " ";  cout << endl;  x = 50;  pos = 5;  insertX(n, arr, x, pos);  for (i = 0; i < n + 1; i++)  cout << arr[i] << " ";  cout << endl;  return 0;  } |

1. Write a C++ program to delete an element from an array at specified position.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  void main()  {  int arr[50], size, i, del, count=0;  cout<<"Enter array size : ";  cin>>size;  cout<<"Enter array elements : ";  for(i=0; i<size; i++)  {  cin>>arr[i];  }  cout<<"Enter element to be delete : ";  cin>>del;  for(i=0; i<size; i++)  {  if(arr[i]==del)  {  for(int j=i; j<(size-1); j++)  {  arr[j]=arr[j+1];  }  count++;  break;  }  }  if(count==0)  {  cout<<"Element not found..!!";  }  else  {  cout<<"Element deleted successfully..!!\n";  cout<<"Now the new array is :\n";  for(i=0; i<(size-1); i++)  {  cout<<arr[i]<<" ";  }  }  getch();  } |

1. Write a C++ program to merge two arrays to third array.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  void main()  {  int a[10],b[10],c[20],i;  clrscr();  cout<<"Enter Elements in 1st Array: ";  for(i=0;i<10;i++)  {  cin>>a[i];  }  cout<<"Enter Elements in 2nd Array: ";  for(i=0;i<10;i++)  {  cin>>b[i];  }  cout<<"\nElements of Array After Merge: ";  for(i=0;i<10;i++)  {  c[i]=a[i];  c[i+10]=b[i];  }  for(i=0;i<20;i++)  {  cout<<c[i];  }  getch();  } |

1. Write a C++ program to add two matrices.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  int main()  {  int rowCount, columnCount, i, j;  int firstMatrix[10][10], secondMatrix[10][10], resultMatrix[10][10];  cout<<"2 D (dimensional) Array Matrix Addition Example\n";  cout<<"Number of rows of matrices to be added : ";  cin>>rowCount;  cout<<"Number of columns matrices to be added : ";  cin>>columnCount;  cout<<"Elements of first matrix : \n";  for (i = 0; i < rowCount; i++)  for (j = 0; j < columnCount; j++)  cin>>firstMatrix[i][j];  cout<<"Elements of second matrix : \n";  for (i = 0; i < rowCount; i++)  for (j = 0; j < columnCount; j++)  cin>>secondMatrix[i][j];  cout<<"Sum of entered matrices : \n";  for (i = 0; i < rowCount; i++)  {  for (j = 0; j < columnCount; j++)  {  resultMatrix[i][j] = firstMatrix[i][j] + secondMatrix[i][j];  cout<<resultMatrix[i][j]<<"\t";  }  cout<<"\n";  }    getch();  return 0;  } |

1. Write a C++ program to subtract two matrices.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  int main()  {  int rowCount, columnCount, i, j;  int firstMatrix[10][10], secondMatrix[10][10], resultMatrix[10][10];  cout<<"Simple C++ Example Program for 2 D (dimensional) Array Matrix Subtraction Example\n";  cout<<"Number of rows of matrices to be subtracted : ";  cin>>rowCount;  cout<<"Number of columns matrices to be subtracted : ";  cin>>columnCount;  cout<<"Elements of first matrix : \n";  for (i = 0; i < rowCount; i++)  for (j = 0; j < columnCount; j++)  cin>>firstMatrix[i][j];  cout<<"Elements of second matrix : \n";  for (i = 0; i < rowCount; i++)  for (j = 0; j < columnCount; j++)  cin>>secondMatrix[i][j];  cout<<"Difference of entered matrices : \n";  for (i = 0; i < rowCount; i++)  {  for (j = 0; j < columnCount; j++)  {  resultMatrix[i][j] = firstMatrix[i][j] - secondMatrix[i][j];  cout<<resultMatrix[i][j]<<"\t";  }  cout<<"\n";  }    getch();  return 0;  } |

1. Write a C++ program to multiply two matrices.

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| --- |
| #include <bits/stdc++.h>  using namespace std;  #include <stdio.h>  int main()  {  int rowCountOne, columnCountOne, rowCountTwo, columnCountTwo, i, j, k, sum = 0;  int firstMatrix[10][10], secondMatrix[10][10], resultMatrix[10][10];  cout<<"Number of rows in first matrix : ";  cin>>rowCountOne;  cout<<"Number of columns in first matrix : ";  cin>>columnCountOne;  cout<<"Elements of first matrix : \n";  for (i = 0; i < rowCountOne; i++)  for (j = 0; j < columnCountOne; j++)  cin>>firstMatrix[i][j];  cout<<"Number of rows of second matrix : ";  cin>>rowCountTwo;  cout<<"Number of columns of second matrix : ";  cin>>columnCountTwo;  if (columnCountOne != rowCountTwo)  cout<<"Matrices with entered orders cannot be multiplied.\n";  else  {  cout<<"Elements of second matrix : \n";  for (i = 0; i < rowCountTwo; i++)  for (j = 0; j < columnCountTwo; j++)  cin>>secondMatrix[i][j];  for (i = 0; i < rowCountOne; i++) {  for (j = 0; j < columnCountTwo; j++) {  for (k = 0; k < rowCountTwo; k++) {  sum = sum + firstMatrix[i][k]\*secondMatrix[k][j];  }  resultMatrix[i][j] = sum;  sum = 0;  }  }  cout<<"After Multiplication, the result is : \n";  for (i = 0; i < rowCountOne; i++) {  for (j = 0; j < columnCountTwo; j++)  cout<<resultMatrix[i][j]<<"\t";  cout<<"\n";  }  }  return 0;  } |