|  |
| --- |
| **Object Oriented Programming**  ***Section*: BSCE2021 Assignment # 1 *Total marks*: 100**  ***Name*** : ***NIMAR MAQBOOL Roll number* : BSCE21012** |

***Submission:***

• *Email instructor or TA if there are any questions. You cannot look at others’ solution or use others’ solution, however, you can discuss it with each other. Plagiarism will be dealt according to the course policy.*

*• Submission after due time will not be accepted.*

**There should be a Report explaining your code and highlighting results. Follow this naming convention for your report RollNumber\_Assignment#.pdf e.g BSCE21001\_Assignment1.pdf.**

**TASK 1:**

Swap Two values using pointers through a function named as 'SwapValues'.

void swapValues ( float \*, float \* );

|  |
| --- |
| FUNCTION.CPP:  void swapValues(float \*a, float \*b) {  float temp;  temp = \*a;  \*a = \*b;  \*b = temp;  cout<<"\nAFTER SWAPPING"<<endl;  cout<<"A AFTER SWAPPING= "<<&a<<" \nB AFTER SWAPPING ="<<&b<<endl; }  MAIN.CPP:  cout<<"================================== task 1 ================================"<<endl;  float num1;  float num2;  cout<<"BEFORE SWAPPING"<<endl;  cout<<"please enter the value of A= ";  cin>>num1;  cout<<"please enter the value of B= ";  cin>>num2;  swapValues ( &num1, &num2);  cout<<"\nAFTER SWAPPING"<<endl;  cout<<"A AFTER SWAPPING= "<<num1<<" \nB AFTER SWAPPING ="<<num2<<endl;  OUTPUT:  A screenshot of a computer  Description automatically generated with medium confidence |

**TASK 2:**

Write a program to swap elements of two arrays using pointers. Both arrays should be of same size. Check the size of both arrays before swapping.

void swapArrays ( int \* , int \* , int);

|  |
| --- |
| FUNCTION.CPP:  void swapArrays(int \*arr, int \*arr1, int size) {  int temp;  for (int i = 0; i <size; i++) {  temp = arr[i];  arr[i] = arr1[i];  arr1[i] = temp;  }  cout << "AFTER SWAPPING" << endl;  for (int i = 0; i < size; i++) {  cout << "THE SWAPPED ARRAY 1 =" << arr[i] << endl;  }  cout << endl;  for (int i = 0; i < size; i++) {  cout << "THE SWAPPED ARRAY 2 =" << arr1[i] << endl;  }   }  MAIN.CPP:  cout<<"================================== task 2 ================================"<<endl;  int size; int \*arr = new int[size]; int \*arr1 = new int[size]; cout << "please enter size of array" << endl; cin >> size;  cout << "please enter elements of array1 =" << endl;  for (int i = 0; i < size; i++) {  cin >> arr[i];  }   cout << "please enter elements of array 2 =" << endl;  for (int j = 0; j < size; j++) {  cin >> arr1[j];  } swapArrays( arr,arr1,size ); delete[]arr; delete[]arr1;  OUTPUT:  Text  Description automatically generated |

**TASK 3:**

Write a program to reverse the elements of an array using pointers.

void reverseArrayElements (int \* , int);

|  |
| --- |
| FUNCTION.CPP:  void reverseArrayElements(int \*ptr, int size1) {  int temp;  int j = size1 - 1;  for (int i = 0; i < j; i++, j--) {  temp = ptr[i];  ptr[i] = ptr[j];  ptr[j] = temp;  }  for (int i = 0; i < size1; i++) {  cout << ptr[i] << " ";  }  }  MAIN.CPP:  void reverseArrayElements(int \*ptr, int size1) {  int temp;  int j = size1 - 1;  for (int i = 0; i < j; i++, j--) {  temp = ptr[i];  ptr[i] = ptr[j];  ptr[j] = temp;  }  cout<<"THE ARRAY AFTER REVERSING =";  for (int i = 0; i < size1; i++) {  cout << ptr[i] << " ";  }  OUTPUT:  Text  Description automatically generated |

TEST CASES:

1.ALL THE TEST CASES ARE PASSED.

Text

Description automatically generated with low confidence