

# UNIVERSITY OF ENGINEERING AND TECHNOLOGY (NAROWAL CAMPUS)



## Object-Oriented Programming Lab Manual

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Topics: 1-Dimension Array using Pointers,  
Dangling Pointer, and Memory Leak

# Lab Manual

## (Object-Oriented Programming Lab)

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- **Task 1:**

Create a dynamic 1-Dimensional array using pointers in C++ program

**Program:**

```
1  #include <iostream>
2  using namespace std;
3  int main(){
4      int length;
5      cout<<"Enter the length of Array: ";
6      cin>>length;
7      int* ptr = new int[length];
8      cout<<" --: Enter Array Elements :-- "<<endl;
9      for(int i =0; i<length;i++){
10         cout<<"Enter the "<<i+1<<" element of array: ";
11         cin>>*(ptr+i);
12     }
13     cout<<" --: The Array Elements :-- "<<endl;
14     for(int i =0; i<length ; i++){
15         cout<<"The "<<i+1<<" elements of array is "<<*(ptr+i)<<endl;
16     }
17     delete[] ptr;
18     return 0;
19 }
```

**Output:**

```
Enter the length of Array: 5
--: Enter Array Elements :--
Enter the 1 element of array: 130
Enter the 2 element of array: 901
Enter the 3 element of array: 425
Enter the 4 element of array: 463
Enter the 5 element of array: 947
--: The Array Elements :--
The 1 elements of array is 130
The 2 elements of array is 901
The 3 elements of array is 425
The 4 elements of array is 463
The 5 elements of array is 947

D:\UET Narowal\2nd Semester\Object Oriented Programming\Lab\OOP Lab\x64\Debug\OOP Lab.exe (process 14888) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

- **Task 2:**

Create a Dangling Pointer in C++ program:

**Program:**

```
1  #include <iostream>
2  using namespace std;
3  int main(){
4      int* arr = new int[6];
5      int* ptr = &arr[5];
6      delete[] arr;
7      cout<<*ptr<<endl;
8      return 0;
9  }
```

**Output:**

-572662307

D:\UET Narowal\2nd Semester\Object Oriented Programming\Lab\OOP Lab\x64\Debug\OOP Lab.exe (process 7084) exited with code 0.  
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.  
Press any key to close this window . . .

- **Task 3:**

Write a memory leak program in C++

**Program:**

```
1  #include <iostream>
2  using namespace std;
3  int main(){
4      int* ptr = new int;
5      *ptr = 10;
6      ptr = new int;
7      *ptr = 20;
8      cout<<*ptr;
9      delete ptr;
10     return 0;
11 }
```

**Output:**

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D:\UET Narowal\2nd Semester\Object Oriented Programming\Lab\OOP Lab\x64\Debug\OOP Lab.exe (process 14892) exited with code 0.  
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