

Activity No. 4.2

Pointers

Course Code: CPE007

Program: Computer Engineering

Course Title: Programming Logic and Design

Date Performed: September 18, 2025

Section: CpE 11S1

Date Submitted: September 18, 2025

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6. Output

- Screenshot of Code(Readable):

```
1  #include <iostream>
2  using namespace std;
3
4  int main(){
5      const int size = 10;
6      int scores[size] = {95, 85, 78, 88, 92, 80, 75, 80, 89, 91};
7
8      cout << "scores array: ";
9
10     for (int i = 0; i < size; i++) {
11         cout << scores[i] << " ";
12     }
13
14     cout << endl << endl;
15     for (int i = 0; i < size; i++){
16         cout << "address of element " << i << ": " << &scores[i] << endl;
17     }
18     cout << endl << endl;
19     int *scorePtr;
20     scorePtr = &scores[0];
21
22     cout << "the address of the array [0]: " << *scorePtr << endl;
23     cout << "the dereferenced pointer: " << scorePtr << endl;
24     cout << endl << endl;
25
26     int numBytes = sizeof(scores);
27     cout << "The number of bytes of the array is: " << numBytes << endl;
28
29     return 0;
30 }
31
```

- Output of Code(label and compile ALL possible outputs):

```
scores array: 95 85 78 88 92 80 75 80 89 91
```

```
address of element 0: 0x78fdd0
address of element 1: 0x78fdd4
address of element 2: 0x78fdd8
address of element 3: 0x78fddc
address of element 4: 0x78fde0
address of element 5: 0x78fde4
address of element 6: 0x78fde8
address of element 7: 0x78fdec
address of element 8: 0x78fdf0
address of element 9: 0x78fdf4
```

```
the address of the array [0]: 95
the dereferenced pointer: 0x78fdd0
```

```
The number of bytes of the array is: 40
```

```
-----
Process exited after 0.227 seconds with return value 0
Press any key to continue . . .
```

7. Supplementary Activity

This program is a program that outputs the addresses of the elements inside an array, the address of a specific element in the array, and the dereferenced pointer of an element. It does these by using the "&" and "*" symbols inserted at the start of the name of a data type. The "&" symbol is used in finding the address of a value this is used in the second for-loop to display the addresses of an array and in line 20 to store the value of the address of a value to the pointer. The next symbol "*" is used to store the address

8. Conclusion

In this online laboratory lecture I have learnt how to use pointers to find and store addresses of an element in an array using the symbols "&" and "*", The "&" symbol is used to find the addresses and the "*" is used to store the addresses. The way we used pointers in our activity is by finding the addresses of different elements in an array and storing their addresses in a dereferenced pointer. For me I felt that I did ok in this activity and that I need to keep enhancing my abilities by studying in advance for the next activities.