Activity No. <4.2>	
Seatwork 4.2: Arrays	
Course Code: CPE007	**Program:** Computer Engineering
Course Title: Programming Logic and Design	**Date Performed:** Sep 09, 2025
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6. Output

Example 1:

```
#include<iostream>
using namespace std;

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using namespace std;

int main() {
    int n[10];

    // Initialize array elements to 0
    for (int i = 0; i < 10; i++) {
        n[i] = 0;
    }

    cout << "Element   Value" << endl;

    // Print index and value
    for (int i = 0; i < 10; i++) {
        cout << "   " << i << "       " << n[i] << endl;
    }

    return 0;
}
```

Explanation:

- There is an array of 10 numbers. A loop sets to 0 all the numbers so that they all are the same. The program shows the text "Element" with the text "Value" above it. Another loop prints the place number and the value. All the values are 0 from 0 to 9. This is a simple way to create an array and print it.

Example 2:

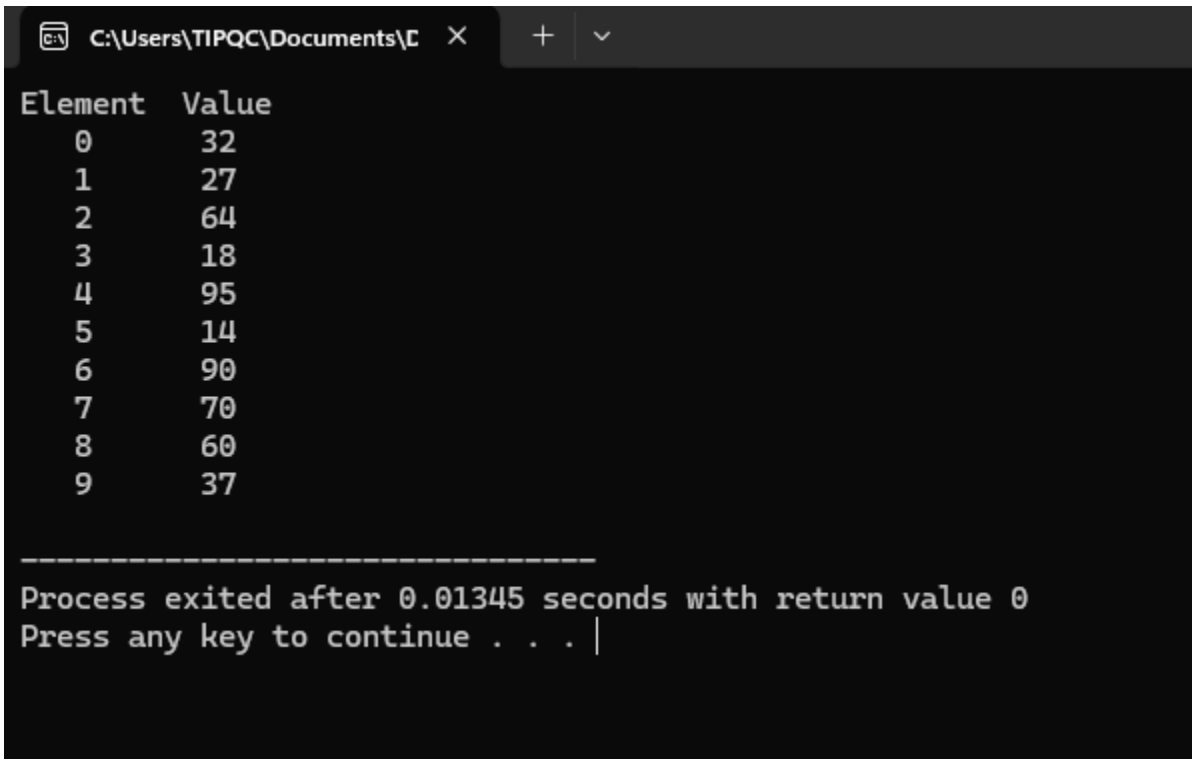
```cpp
#include <iostream>
using namespace std;

int main() {
    int n[10] = {32, 27, 64, 18, 95, 14, 90, 70, 60, 37};

    cout << "Element  Value" << endl;

    for (int i = 0; i < 10; i++) {
        cout << "    " << i << "       " << n[i] << endl;
    }

    return 0;
}
```



Explanation:

- The program creates an array with 10 elements: 32, 27, 64, 18, 95, 14, 90, 70, 60, and 37. It outputs "Element" and "Value" for header information so the output will look good. The program then goes through a loop providing each element number with a value number of the element's value. Since the numbers were already given, the output shows the elements as 0 to 9 with the correct values.

Example 3:

```
#include <iostream>
using namespace std;

#define SIZE 12

int main() {
    int a[SIZE] = {1, 3, 5, 4, 7, 2, 99, 16, 45, 67, 89, 45};
    int total = 0;

    for (int i = 0; i < SIZE; i++) {
        total += a[i];
    }

    cout << "Total of array element values is " << total << endl;
    return 0;
}
```

```
C:\Users\TIPQC\Documents\C
Element  Value
   0      32
   1      27
   2      64
   3      18
   4      95
   5      14
   6      90
   7      70
   8      60
   9      37

--------------------------------
Process exited after 0.01345 seconds with return value 0
Press any key to continue . . .
```

Explanation:

The program shows how to add all the numbers in an array. The array has 12 numbers already inside it: 1, 3, 5, 4, 7, 2, 99, 16, 45, 67, 89, and 45. A variable called total starts at 0, and a loop goes from index 0 to 11, adding each number to total. When the loop is done, the program prints the sum of all the numbers. This shows how a loop can add array elements and give one total answer.

7. Supplementary Activity

1.

Tobias_Array-4.2.cpp

```cpp
#include <iostream>
using namespace std;

int main() {
    const int size = 10;
    int values[size] = {19, 3, 15, 7, 11, 9, 13, 5, 17, 1};

    cout << "Element Value Histogram" << endl;

    for (int i = 0; i < size; i++) {
        cout << i << "\t" << values[i] << "\t";

        for (int j = 0; j < values[i]; j++) {
            cout << "*";
        }
        cout << endl;
    }

    return 0;
}
```

```
C:\Users\TIPQC\Documents\C
Element Value Histogram
0       19      ******************
1       3       ***
2       15      ***************
3       7       *******
4       11      ***********
5       9       *********
6       13      *************
7       5       *****
8       17      *****************
9       1       *

--------------------------------
Process exited after 0.01393 seconds with return value 0
Press any key to continue . . .
```

Explanation:

- An array of numbers will be added by the program. There are 12 values in the array. {1, 3, 5, 4, 7, 2, 99, 16, 45, 67, 89, and 45} are the values. One variable total will be used, and it will begin at zero. Next, we will add to the total using a loop that runs from index 0 to index 11. We will get the total of all the numbers after the loop is complete. Here are some examples of how a loop might add up all of an array's items to provide a final total.

2.

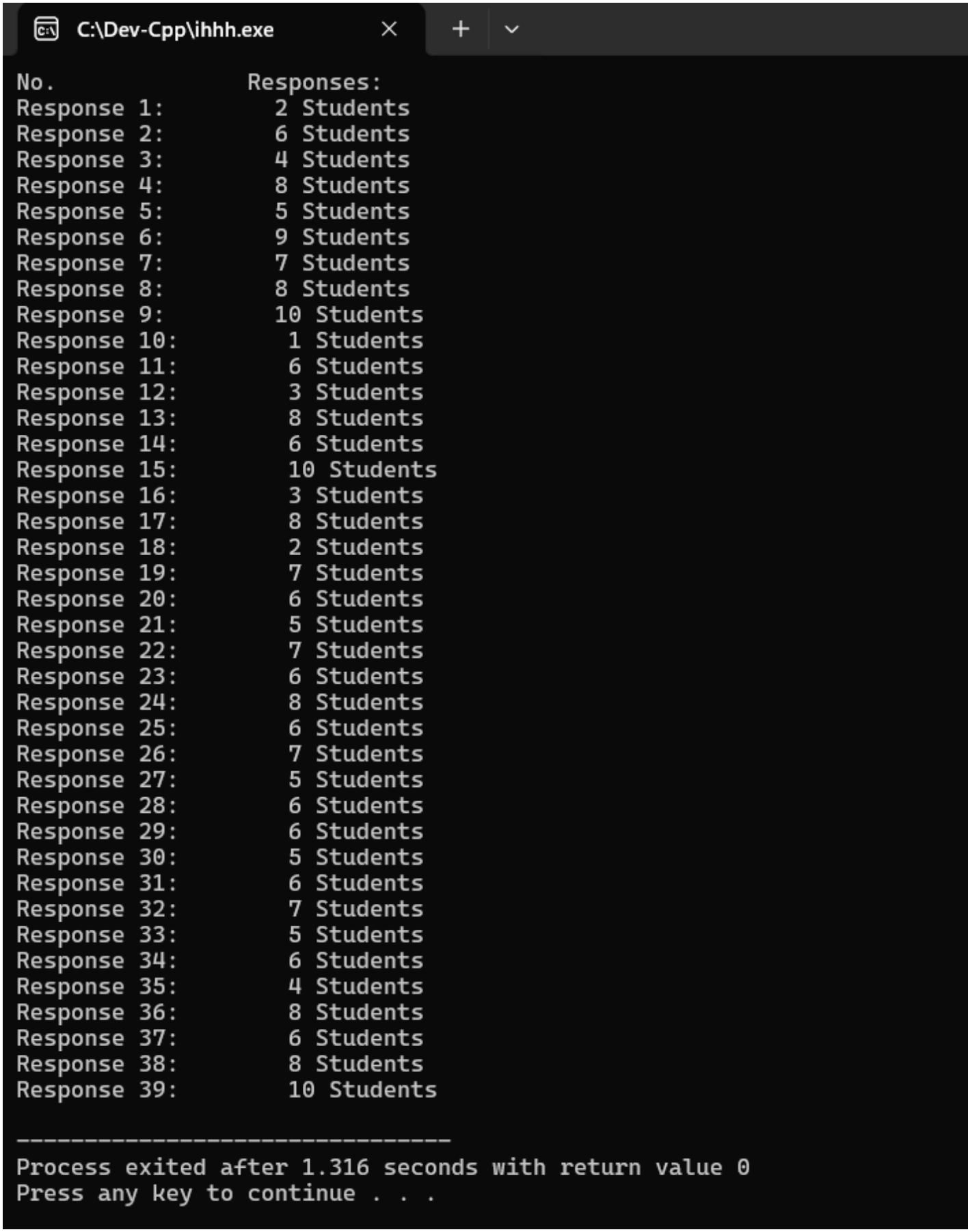
```cpp
#include <iostream>
using namespace std;

int main(){
    int responces[40] = {1, 2, 6, 4, 8, 5, 9, 7, 8, 10, 1, 6, 3, 8, 6, 10, 3, 8, 2, 7, 6, 5, 7, 6, 8, 6, 7, 5, 6, 6, 5, 6, 7, 5, 6, 4, 8, 6, 8, 10};


    cout << "No.              Responses:" << endl;

    for (int a=1; a<40; a++) {
        cout << "Response " << a << ":        " << responces [a] << " Students"<< endl;
    }

    return 0;
}
```


C:\Dev-Cpp\ihhh.exe
No. Responses:
Response 1: 2 Students
Response 2: 6 Students
Response 3: 4 Students
Response 4: 8 Students
Response 5: 5 Students
Response 6: 9 Students
Response 7: 7 Students
Response 8: 8 Students
Response 9: 10 Students
Response 10: 1 Students
Response 11: 6 Students
Response 12: 3 Students
Response 13: 8 Students
Response 14: 6 Students
Response 15: 10 Students
Response 16: 3 Students
Response 17: 8 Students
Response 18: 2 Students
Response 19: 7 Students
Response 20: 6 Students
Response 21: 5 Students
Response 22: 7 Students
Response 23: 6 Students
Response 24: 8 Students
Response 25: 6 Students
Response 26: 7 Students
Response 27: 5 Students
Response 28: 6 Students
Response 29: 6 Students
Response 30: 5 Students
Response 31: 6 Students
Response 32: 7 Students
Response 33: 5 Students
Response 34: 6 Students
Response 35: 4 Students
Response 36: 8 Students
Response 37: 6 Students
Response 38: 8 Students
Response 39: 10 Students

Process exited after 1.316 seconds with return value 0
Press any key to continue . . .

Explanation:

- 40 student responses were given to the program: 1, 2, 6, 4, 8, 5, 9, 6, 7, 10, 2, 3, 5, 7, 1, 6, 8, 4, 9, 10, 3, 5, 7, 2, 8, 6, 9, 4, 7, 5, 1, 10, 2, 6, 8, 3, 7, 9, 4, 5. To determine how many times each number was responded, the program runs through the responses. The findings are printed by the program at the end.

8. Conclusion

This activity taught me how arrays work and how they can be used in several different types of programs. Arrays allow you to easily group numbers or data, and access each and every one by index. From the histogram program, I learned how loops can display values as stars. From the response summary program, I learned how arrays can count out how many times a number existed. This task has helped me to develop my programming experience , and allowed me to realize how arrays can manage and analyze data.

9. Assessment Rubric

Rubric for SO 7 (6)

Criteria	Ratings						Pts
SO 7 PI 1 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	6 pts Excellent | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently and applies knowledge learned into practice	5 pts Good | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently	4 pts Satisfactory | Look beyond classroom requirements, showing interest in pursuing knowledge independently	3 pts Unsatisfactory | Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently	2 pts Poor | Relies on classroom instruction only	1 pts Very Poor | No initiative or interest in acquiring new knowledge	6 pts
SO 7 PI 2 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	6 pts Excellent | Completes an assigned task independently and practices continuous improvement	5 pts Good | Completes an assigned task without supervision or guidance	4 pts Satisfactory | Requires minimal guidance to complete an assigned task	3 pts Unsatisfactory | Requires detailed or step-by-step instructions to complete a task	2 pts Poor | Shows little interest to complete a task independently	1 pts Very Poor | No interest to complete a task independently	6 pts
SO 7 PI 3 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	6 pts Excellent | Synthesizes and integrates information from a variety of sources; formulates a clear and precise perspective; draws appropriate conclusions	5 pts Good | Evaluate information from a variety of sources; formulates a clear and precise perspective.	4 pts Satisfactory | Analyze information from a variety of sources; formulates a clear and precise perspective.	3 pts Unsatisfactory | Apply the gathered information to formulate the problem	2 pts Poor | Gather and summarized the information from a variety of sources but failed to formulate the problem	1 pts Very Poor | Gather information from a variety of sources	6 pts
SO 7 PI 4 IILO4 Utilize lifelong learning skills in pursuit of personal development and excellence in professional practice. threshold: 4.8 pts	6 pts Excellent | Ideas are combined in original and creative ways in line with the new and emerging technology trends to solve a problem or address an issue.	5 pts Good | Ideas are creative and adapt the new knowledge to solve a problem or address an issue	4 pts Satisfactory | Ideas are creative in solving a problem, or address an issue	3 pts Unsatisfactory | Shows some creative ways to solve the problem	2 pts Poor | Shows initiative and attempt to develop creative ideas to solve the problem	1 pts Very Poor | Ideas are copied or restated from the sources consulted	6 pts

Total Points: 24