Activity No. 4.3	
Sorting and Searching Arrays	
Course Code: CPE 007	**Program:** Computer Engineering
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6. Output

7. Supplementary Activity

1.

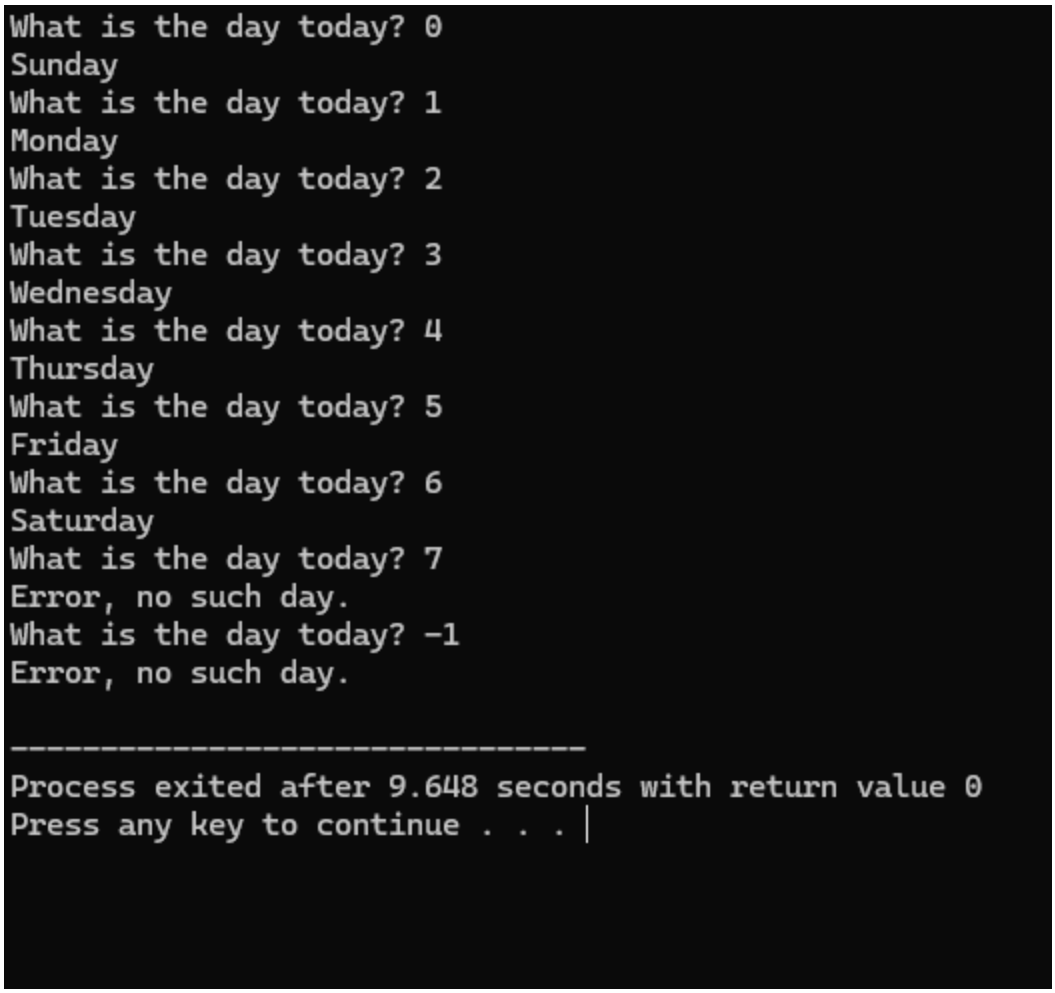
Code:

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

int main() {
    int i = 0;
        string days[7] = {"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"};
        while (i >= 0){
            cout << "What is the day today? ";
            cin >> i;
            if (i >= 0 && i < 7){
                cout << days[i] << endl;
            }
            else {
                cout<<"Error, no such day." << endl;
            }

        }
    return 0;
}
```

Output:



Analysis: What I did in this part is that I initialize an array first and when declaring the array, I input my data type to "string" as my intended values will be a word, not numbers or a single letter. After declaring the array, I will utilize while loop and if-else statements for the program execution. I will use a while loop statement so that I will have an option to repeatedly input index numbers and display its value to show an output proof. And then after a while loop, I will print the question message and code the cin to initialize the input for inputting index numbers. After this, I will now use the if-else statement to have a parameter when to display the days and error message. In the if statement, I input the condition inside the parenthesis as it is a way of inputting your desired condition and I utilized "&&" because I set two condition expressions. If the conditions are met, it will print the day (value) that corresponds to the inputted index number. Otherwise, it will print out the error message as stated in the else statement.

2.

Code:

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

int main() {
    string letters [2][8] = {
        { "R", "N", "B", "Q", "K", "B", "N", "R" },
        { "P", "P", "P", "P", "P", "P", "P", "P" }
    };
    for (int j = 0; j < 8; j++) {
        cout << letters [0][j] << " ";
    }
    cout << endl;
    for (int j = 0; j < 8; j++) {
        cout << letters [1][j] << " ";
    }
    cout << endl << endl << endl << endl << endl;
    for (int j = 0; j < 8; j++) {
        cout << letters [1][j] << " ";
    }
    cout << endl;
    for (int j = 0; j < 8; j++) {
        cout << letters [0][j] << " ";
    }
  return 0;
}
```

Output:

```
R N B Q K B N R
P P P P P P P P




P P P P P P P P
R N B Q K B N R
--------------------------------
Process exited after 0.01508 seconds with return value 0
Press any key to continue . . .
```

Analysis:

In this part, I will utilize two dimensional arrays to create a chessboard. What I learned on creating two dimensional arrays is that it needs two separate sizes to be two dimensional and it has two different sets of values. The first array size will be for the number of sets of values and the second array size will be for the number of values of the respective index. So I code the two different elements when initializing and declaring arrays. Then, I utilize a for-loop statement four times so that symbols (values of two different elements) will be printed out in the first two and last two rows as indicated in the chessboard starting position. By the way, after printing out the second row (second for loop), I repeatedly coded the endl there so that there will be space of four rows from row 3-6.

8. Conclusion

What I learned in this activity are using while loop and if-else statements in arrays and then, how to code a two dimensional array. The output section of the activity is already familiar to us and that's why we won't answer it anymore. The supplementary activity section will allow us to explore later parts of an array. The first part of supplementary activity is easy for me as it will only use while loop and if-else statements to program "what is day today?". The second part of supplementary activity is in hindsight, it is not complicated at all but I got confused at first. I thought that I needed to use vectors on programming two dimensional arrays but after researching, it only needs a repeated utilization of for-loops statements to print the elements for chess pieces and its place and line spacing for piece-less rows. Overall, the implementation code for this activity is not really complicated at all. Because of that, I get the implementation code in the span of one hour. What I need to do right now in my view is that I must undergo a review of the lessons for this subject so that I will master the fundamentals of C++ language and lessen the need for internet research when I go doing activities.