Hands-on Activity No. 4.3	
Sorting and Searching Arrays	
Course Code: CPE 007	**Program:** Computer Engineering
Course Title: Programming Logic and Design	**Date Performed: 9/16/3035**
Section: CPE11S1	**Date Submitted: 9/16/2025**
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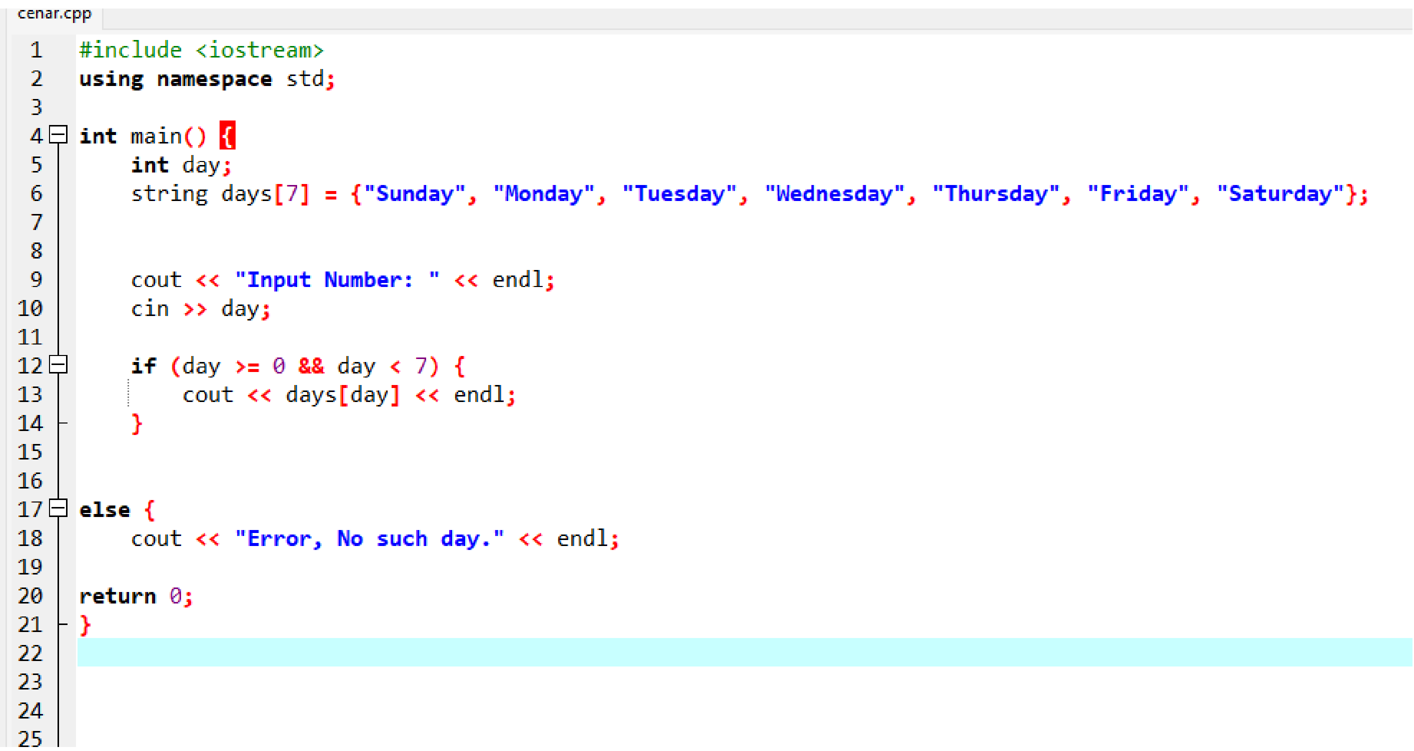
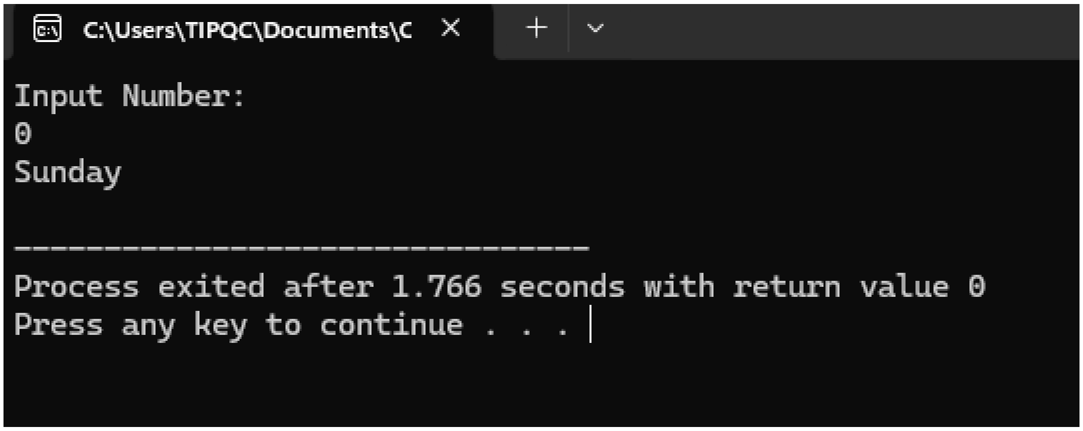
6. Output	

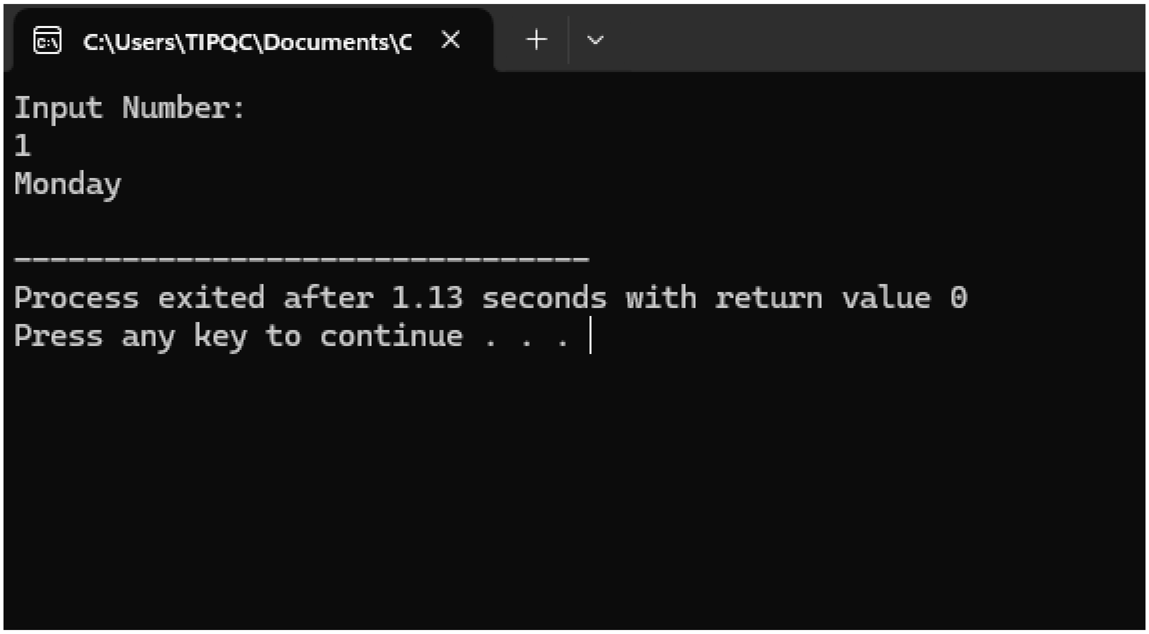
1.



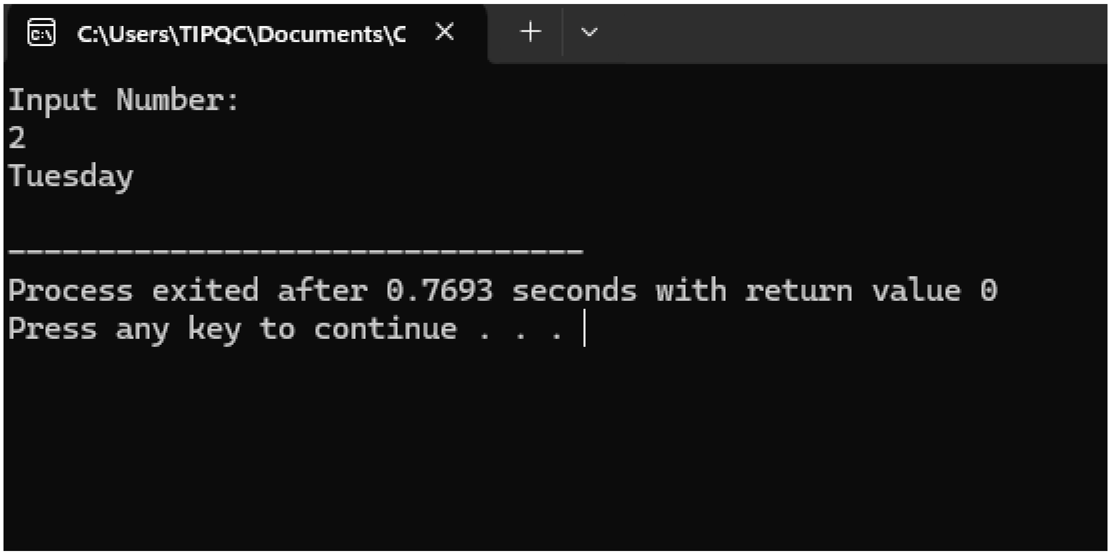
```
#include <iostream>
using namespace std;

int main() {
    int day;
    string days[7] = {"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"};


    cout << "Input Number: " << endl;
    cin >> day;

    if (day >= 0 && day < 7) {
        cout << days[day] << endl;
    }


else {
    cout << "Error, No such day." << endl;

return 0;
}
```



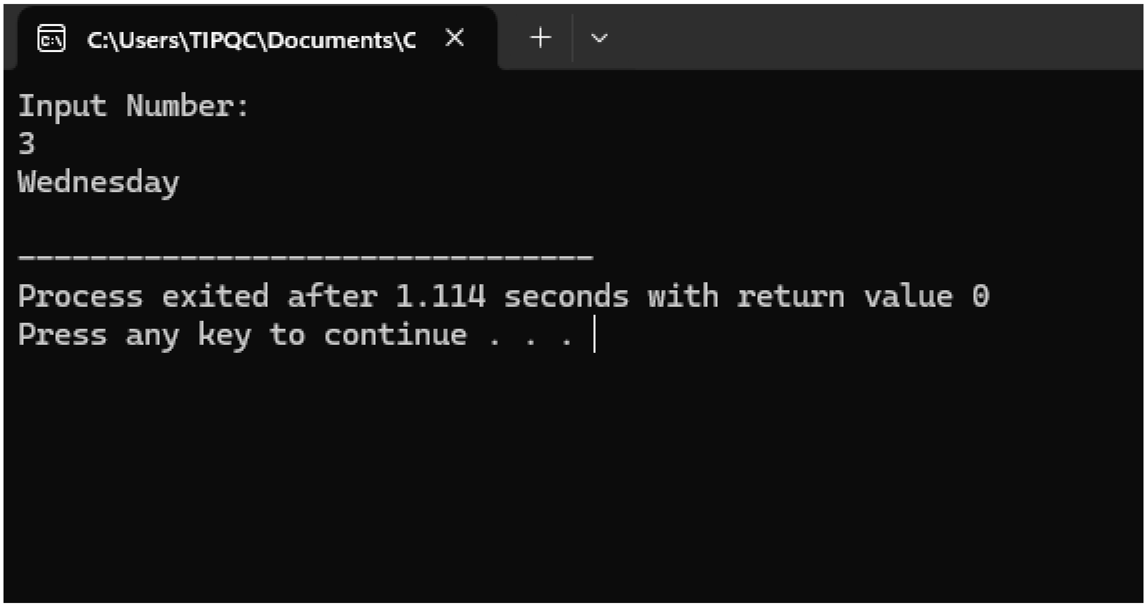
```
Input Number:
0
Sunday

--------------------------------
Process exited after 1.766 seconds with return value 0
Press any key to continue . . .
```



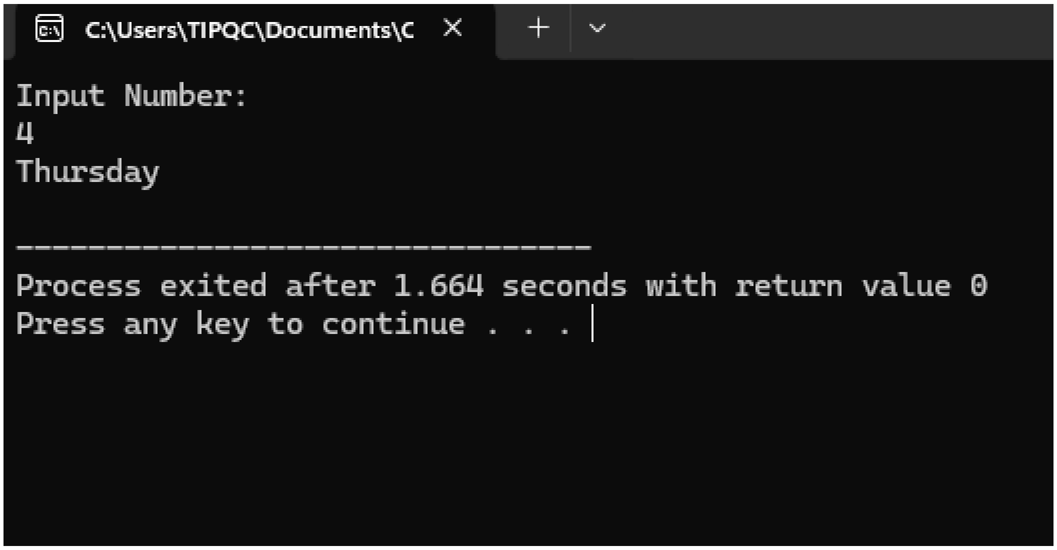
```
Input Number:
1
Monday

--------------------------------
Process exited after 1.13 seconds with return value 0
Press any key to continue . . .
```



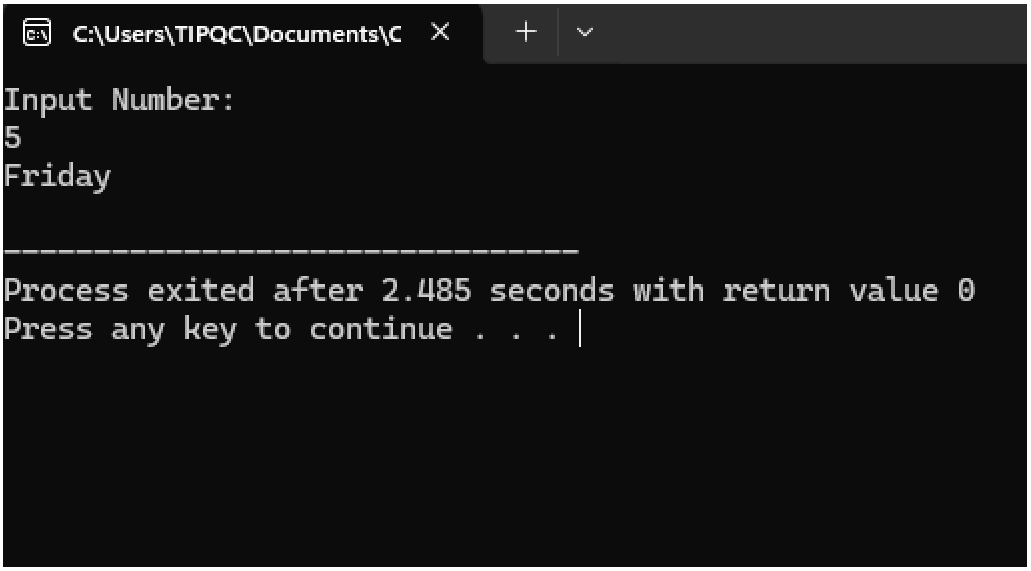
```
Input Number:
2
Tuesday

--------------------------------
Process exited after 0.7693 seconds with return value 0
Press any key to continue . . .
```



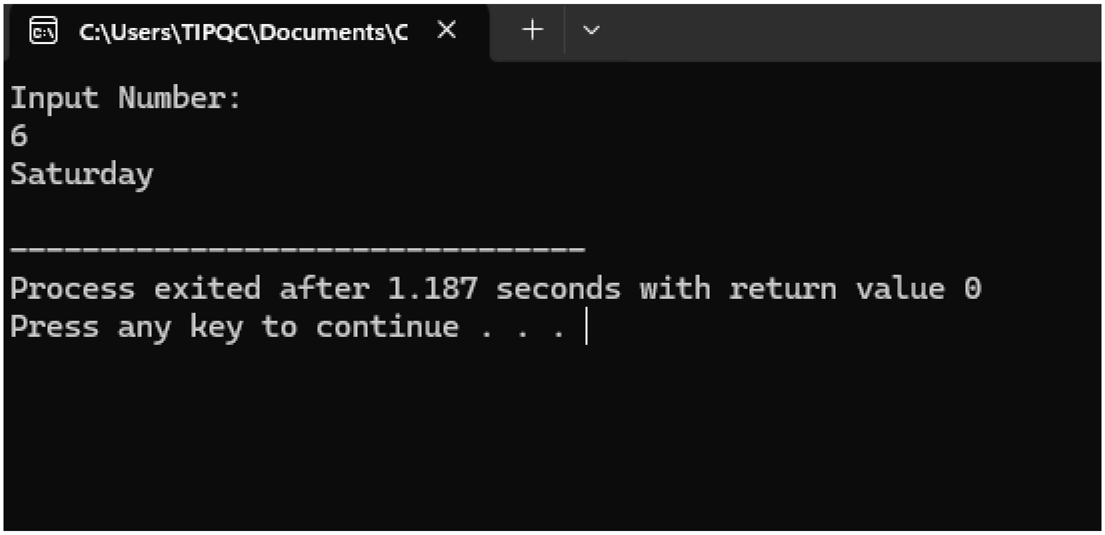
```
Input Number:
3
Wednesday

--------------------------------
Process exited after 1.114 seconds with return value 0
Press any key to continue . . .
```



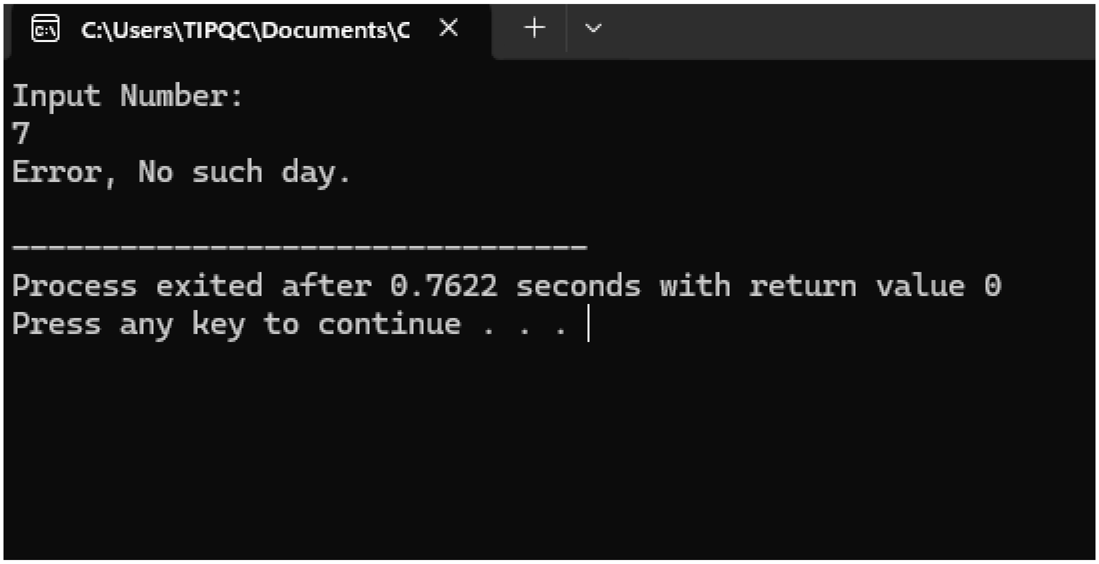
```
Input Number:
4
Thursday

--------------------------------
Process exited after 1.664 seconds with return value 0
Press any key to continue . . .
```



```
Input Number:
5
Friday

--------------------------------
Process exited after 2.485 seconds with return value 0
Press any key to continue . . .
```

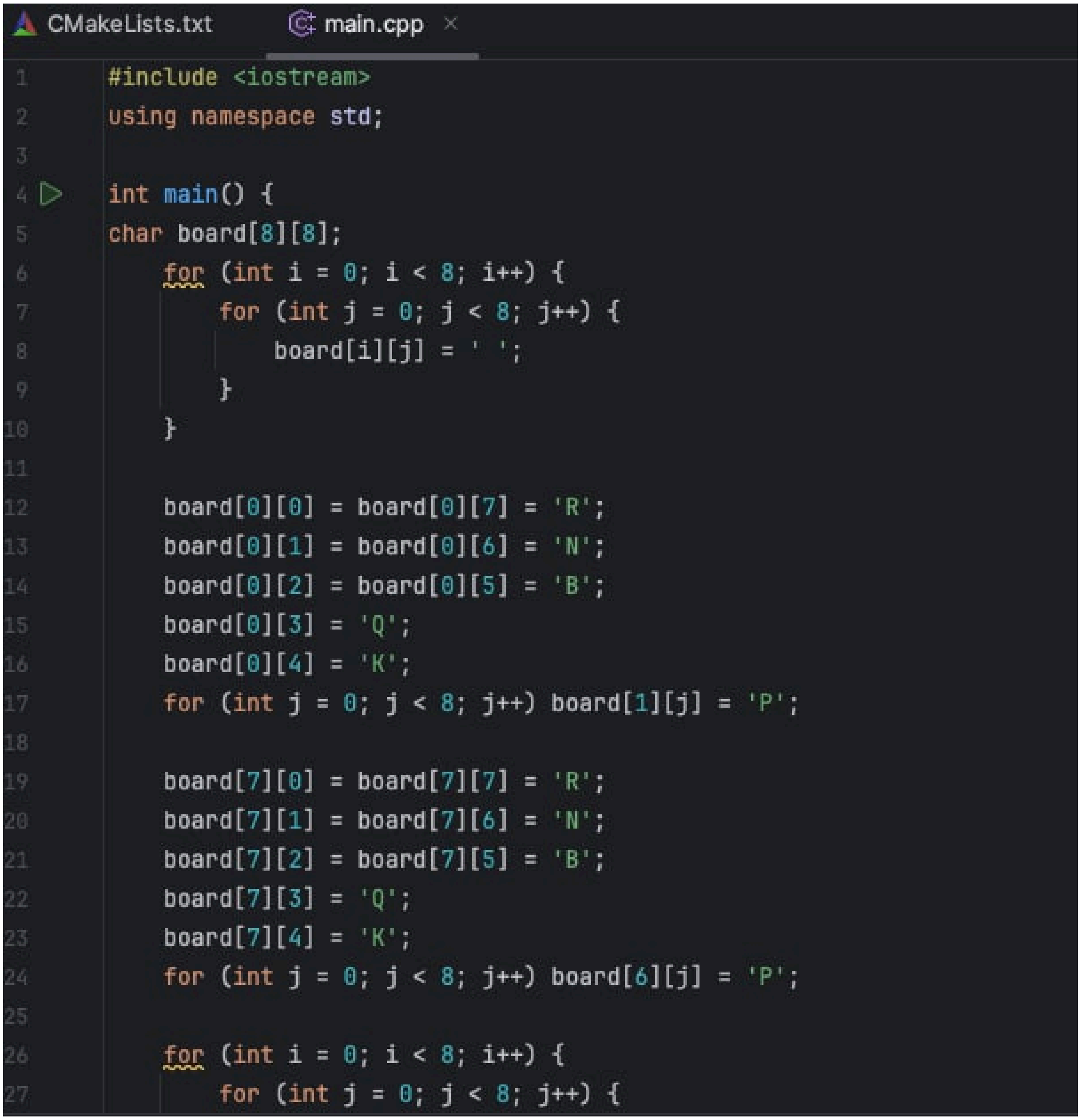


```
Input Number:
6
Saturday

--------------------------------
Process exited after 1.187 seconds with return value 0
Press any key to continue . . .
```

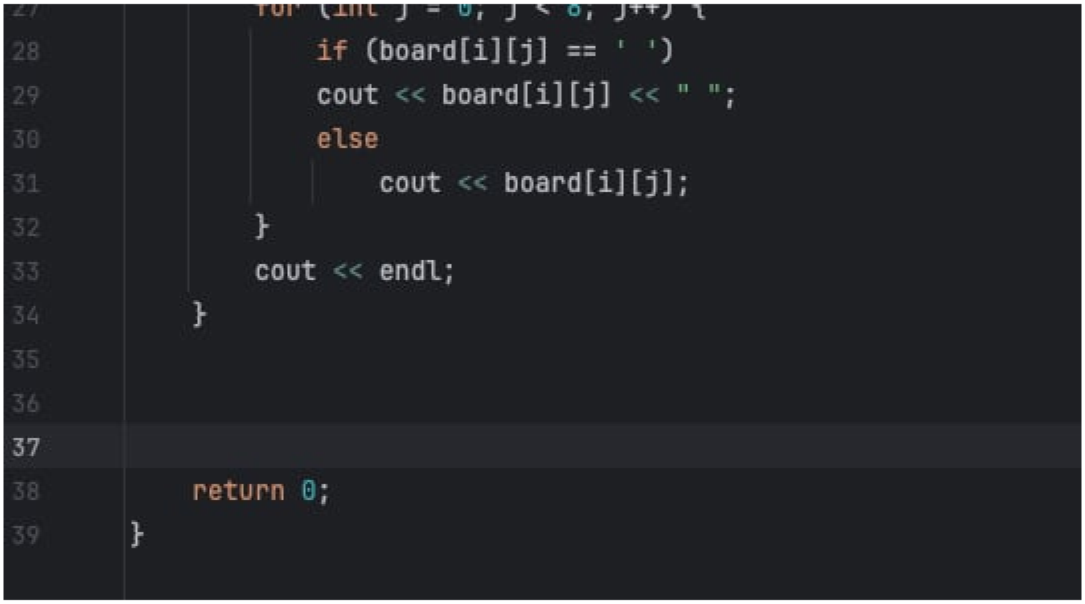


```
Input Number:
7
Error, No such day.

--------------------------------
Process exited after 0.7622 seconds with return value 0
Press any key to continue . . .
```

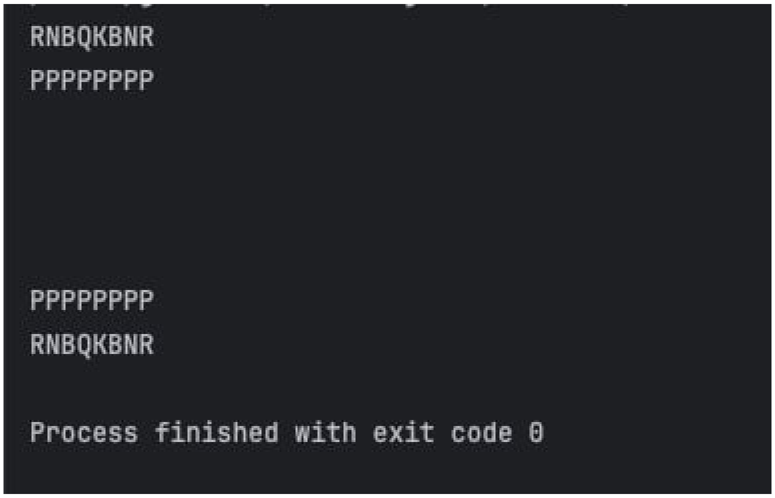
2.



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

int main() {
char board[8][8];
    for (int i = 0; i < 8; i++) {
        for (int j = 0; j < 8; j++) {
            board[i][j] = ' ';
        }
    }

    board[0][0] = board[0][7] = 'R';
    board[0][1] = board[0][6] = 'N';
    board[0][2] = board[0][5] = 'B';
    board[0][3] = 'Q';
    board[0][4] = 'K';
    for (int j = 0; j < 8; j++) board[1][j] = 'P';

    board[7][0] = board[7][7] = 'R';
    board[7][1] = board[7][6] = 'N';
    board[7][2] = board[7][5] = 'B';
    board[7][3] = 'Q';
    board[7][4] = 'K';
    for (int j = 0; j < 8; j++) board[6][j] = 'P';

    for (int i = 0; i < 8; i++) {
        for (int j = 0; j < 8; j++) {
```



```
        for (int j = 0; j < 8; j++) {
            if (board[i][j] == ' ')
            cout << board[i][j] << " ";
            else
                cout << board[i][j];
        }
        cout << endl;
    }



    return 0;
}
```



```
RNBQKBNR
PPPPPPPP




PPPPPPPP
RNBQKBNR

Process finished with exit code 0
```

7. Supplementary Activity

1. The code or program asks the user to input a number and tells him/her what day of the week it is in the range of 0-6 numbers, it will show an error message if the number was not in the range.

   In line 6 of the code I made an array of strings that contains days[7] or the days inside of a week.
   In line 8 I made a message to display telling the user to input a number.
   Line 9 is the input and waits for the user to input a number.
   On line 11 I made an if statement to check if the number inputted by the user is valid (0-6). ">= 0" meaning that the number should be greater or equal to zero not be less than zero or negative, and "< 7" means that the inputted number should be less than 7.
   Line 17 is an else statement meaning if the number that was inputted is negative of greater than seven (7) it is invalid.
   Line 18 shows what will be displayed if the number is invalid. "Error, No such day", it shows this when the number inputted is not in the range of 0-6

2. The program outputs a chessboard format (8x8) using a two-dimensional (2D) array with every chess piece has its representing letter.

On line 5 I created a variable (char board[8][8]) to represent the two-dimensional (2D) array with a size of 8x8 that will represent the chessboard and for each element it holds a character/letter representing the chess pieces.
On line 6-10 I made a for loop initializing the board with “ ‘ ‘ “ representing the blank spaces before each representation of the chess pieces were placed.
Line 12-16 I coded the representation of each chess piece and what position they are in.
Line 19-23 same with the previous one, placing each representation in the right positions but on the last two rows of the chessboard.
On line 24-33 is another for-loop and made elif statement, this display or prints out the chessboard. If an element of the array contains a space, then that part of the board remains blank, else if prints out the representation of the chess piece in that position. This outputs or prints out the whole and completed chessboard with each representation of every chess piece in its right position.

8. Conclusion

- From this activity, I learned how to use or create an array and a two-dimensional array. The two-dimensional array is the chessboard program with a 8x8 grid representing a chessboard. The one-dimensional array on the other hand is another way for me to improve how I use elif statements or if-else statements. My key take on this activity are the for loops I used to accomplish both tasks, I struggled making the chessboard one and had to search or watch some videos for me to finish the program because it was new to me on how to make a two-dimensional array. I think I did well on this activity but not so much on the second one with the chessboard. I did struggle a bit and tested some codes to make it work, even so, the output still showed and matched what it was required to so that I could accomplish it. I can still improve on making cleaner codes like this one if I pursue learning how to make codes or programs like this because it was trial and error for me while making the chessboard.