CSC2111 Computer Science I Lab

Lab 04

Objectives

1. Learn how to write a function to search an array.
2. Learn how to generate an array of **n** random values.
3. Learn how to sort an array (using selection sort)

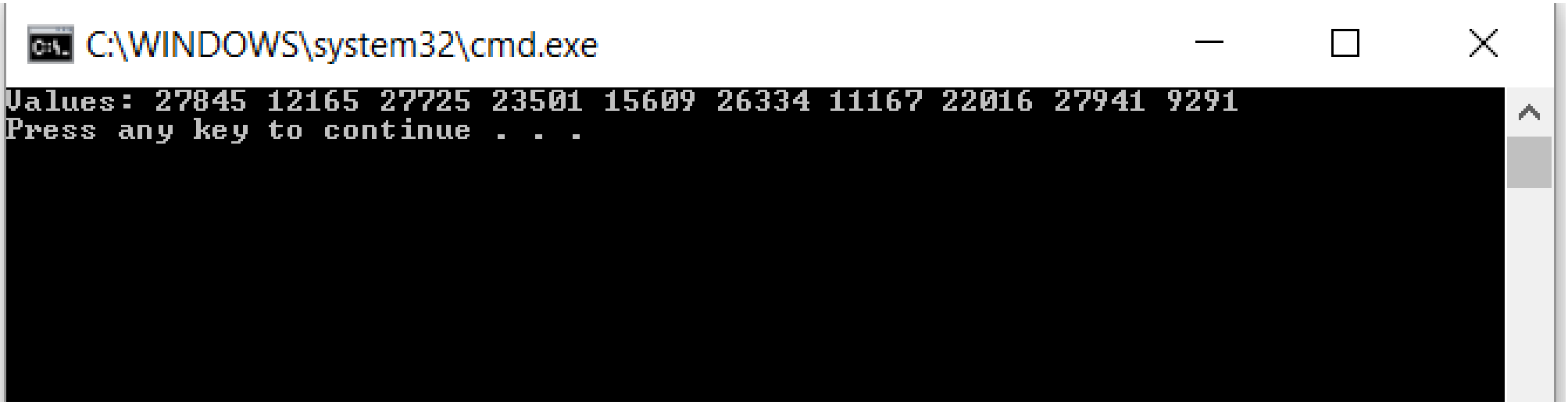
Example 1

- Write a program that displays an array of ten randomly generated numbers.

Example 1

```
#include<iostream>
#include<time.h>
using namespace std;

#define ASIZE 10
int main(void) {
        // Seed the random number generator
        srand((int)time(NULL));

        int a[ASIZE];
        for (int i = 0; i < ASIZE; i++) {
                // Store the random value
                a[i] = rand();
        }
        cout << "Values: ";
        for (int i = 0; i < ASIZE; i++) {
                cout << a[i] << " ";
        }
        cout << endl;
        return 0;
}
```

Output


C:\WINDOWS\system32\cmd.exe
Values: 27845 12165 27725 23501 15609 26334 11167 22016 27941 9291
Press any key to continue . . .

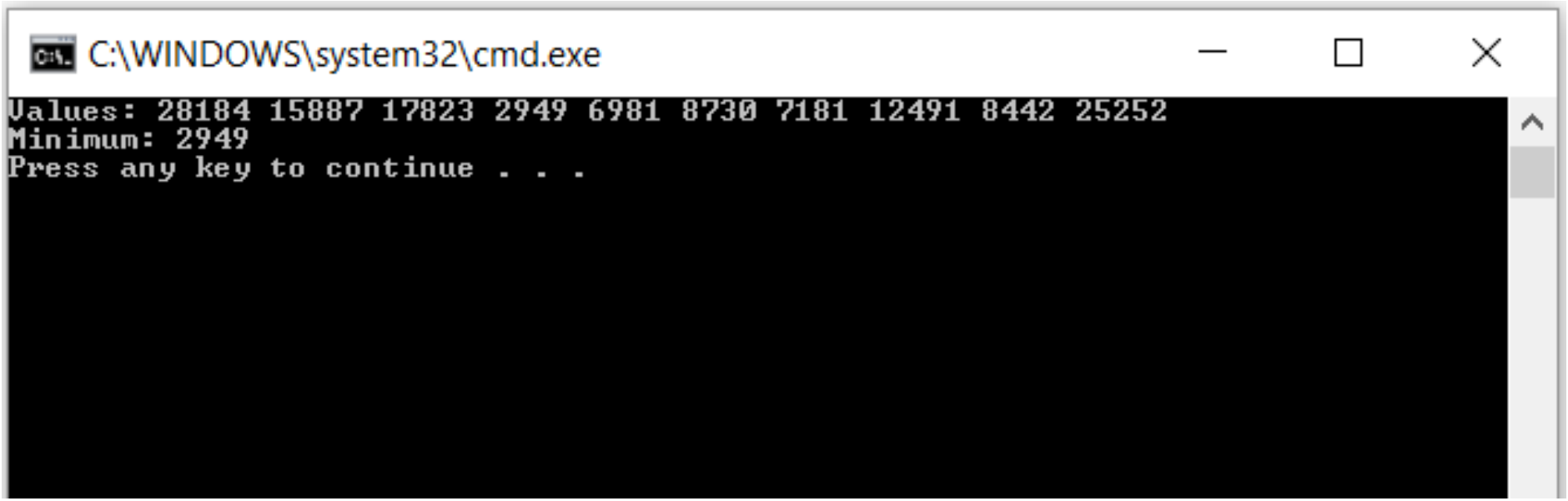
Example 2

- Write a program that finds the minimum value of a ten element randomly generated array.

Example 2

```
#include<iostream>
#include<time.h>
using namespace std;

#define ASIZE 10
int main(void) {
        // Seed the random number generator
        srand((int)time(NULL));

        int a[ASIZE];
        for (int i = 0; i < ASIZE; i++) {
                // Store the random value
                a[i] = rand();
        }

        cout << "Values: ";
        int min = a[0];
        for (int i = 0; i < ASIZE; i++) {
                cout << a[i] << " ";
                if (a[i] < min) {
                        min = a[i];
                }
        }
        cout << endl << "Minimum: " << min << endl;

        return 0;
}
```

Output


C:\WINDOWS\system32\cmd.exe
Values: 28184 15887 17823 2949 6981 8730 7181 12491 8442 25252
Minimum: 2949
Press any key to continue . . .