

Assignment 1:

```
-bash-4.3$ mkdir lab1
-bash-4.3$ cd lab1/
-bash-4.3$ vim hello.cpp
-bash-4.3$ g++ hello.cpp -o hello
-bash-4.3$ ls
hello  hello.cpp
-bash-4.3$ ./hello
Hello World!
-bash-4.3$
```

Assignment 2:

"array.cpp"

```
<begin>
#include <iostream>
#include <time.h>
#include <stdlib.h>

using namespace std;

void PrintArray(int v[], int size)
{
    cout << "[";
    for (int i = 0; i < size; i++) {
        cout << v[i];
        if (i < size - 1) {
            cout << ", ";
        }
    }
    cout << "];"
}
```

```

void RandomArray(int v[], int size)
{
    int value;
    srand(time(NULL));
    for (int i = 0; i < size; i++) {
        value = rand() % 100;
        v[i] = value;
    }
    // PrintArray(v, size);
}

void SortArray(int v[], int size)
{
    int i, j, index;
    for (int i = 0; i < size-1; i++) {
        index = i;
        for (j = i+1; j < size; j++) {
            if (v[j] < v[index]) {
                index = j;
            }
        }

        if (index != i) {
            swap(v[i], v[index]);
        }
    }
}

int main()
{
    int v[10];
    RandomArray(v, 10);
    cout << "The initial array is: ";
    PrintArray(v, 10);
    cout << endl;
    SortArray(v, 10);
    cout << "The sorted array is: ";
    PrintArray(v, 10);
    cout << endl;
    return 0;
}

```

<end>

"shell commands and program output"

```
user410@localhost:~/lab1$ vim array.cpp
user410@localhost:~/lab1$ g++ array.cpp -o array
user410@localhost:~/lab1$ ./array
The initial array is: [45, 87, 17, 69, 39, 59, 44, 65, 19, 57]
The sorted array is: [17, 19, 39, 44, 45, 57, 59, 65, 69, 87]
user410@localhost:~/lab1$
```

Assignment 3:

"str_array.cpp"

<begin>

```
#include <iostream>
#include <time.h>
#include <stdlib.h>
#include <string>
```

```
using namespace std;
```

```
void PrintArray(string v[], int size)
{
    cout << "[";
    for (int i = 0; i < size; i++) {
        cout << v[i];
        if (i < size - 1) {
            cout << ", ";
        }
    }
    cout << "]";
```

```
void ReadStrings(string v[], int size)
{
    for (int i = 0; i < size; i++) {
        cout << "Please enter string #" << i << ": ";
        cin >> v[i];
    }
}
```

```

void SortStringArray(string v[], int size)
{
    int i, j, index;
    for (int i = 0; i < size-1; i++) {
        index = i;
        for (j = i+1; j < size; j++) {
            if (v[j].compare(v[index]) < 0) {
                index = j;
            }
        }

        if (index != i) {
            swap(v[i], v[index]);
        }
    }
}

```

```

int main()
{
    string v[10];
    ReadStrings(v, 10);
    cout << "The initial array is: ";
    PrintArray(v, 10);
    cout << endl;
    SortStringArray(v, 10);
    cout << "The sorted array is: ";
    PrintArray(v, 10);
    cout << endl;
    return 0;
}

```

<end>

"shell commands and output"

```
user410@localhost:~/lab1$ vim str_array.cpp
user410@localhost:~/lab1$ g++ str_array.cpp -o str_array
user410@localhost:~/lab1$ ./str_array
Please enter string #0: asdasssd
Please enter string #1: nsfjgsfg
Please enter string #2: sdgertayh
Please enter string #3: aewewara
Please enter string #4: szvzcxdgr
Please enter string #5: xcbxcnfd
Please enter string #6: azserawty
Please enter string #7: zxxbfgd
Please enter string #8: yrtewdfh
Please enter string #9: ftkiyfi
The initial array is: [asdasssd, nsfjgsfg, sdgertayh, aewewara,
szvzcxdgr, xcbxcnfd, azserawty, zxxbfgd, yrtewdfh, ftkiyfi]
The sorted array is: [aewewara, asdasssd, azserawty, ftkiyfi,
nsfjgsfg, sdgertayh, szvzcxdgr, xcbxcnfd, yrtewdfh, zxxbfgd]
user410@localhost:~/lab1$
user410@localhost:~/lab1$
```