Object Oriented Programming Lab Task #6

Submitted By

Saad Ahmad

(20P-0051)

Submitted to

Mr. Muhammad Abdullah

(Computer Instructor)

Q No.1: Write a program to input data into an array (Take value from user at runtime for inserting into array using loop) and find out the maximum value and minimum value from array through pointer.

Code:

```cpp
#include<iostream>
using namespace std;
void max_min(int a[],int size);

int main()
{
    int size_of_array;
    int a[100];
    cout<<"Entet the size of the array: ";
    cin>>size_of_array;
    max_min(a,size_of_array);
}

void max_min(int a[],int size)
{
    int *p;

    for(int i=0; i<size;i++)
    {
        cout << "a["<< i<<"] = ";
        cin>>a[i];
    }
    int max=a[0], min=a[0];
    for (int i = 0; i < size; i++)
    {
        p=&a[i];
        if ( *p > max)
        {
            max=*p;
        }
        if ( *p < min)
        {
            min=*p;
        }

    }
    cout<<"Max value: "<<max<<endl;
    cout<<"Min value: "<<min<<endl;
}
```

Output:

```
TERMINAL    OUTPUT    PROBLEMS    DEBUG CONSOLE


Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\OOP_lab_Task> cd "d:\OOP_lab_Task"
PS D:\OOP_lab_Task> & .\"Q1.exe"
Entet the size of the array: 4
a[0] = 1
a[1] = 2
a[2] = 3
a[3] = 4
Max value: 4
Min value: 1
PS D:\OOP_lab_Task> []
```

Q No.2: Write a program to convert Fahrenheit to Celsius degrees, by passing pointers as arguments to the function. (Take value from user at runtime)

Code:

```cpp
Q2.cpp    X

Q2.cpp > ...
 1    #include<iostream>
 2    using namespace std;
 3    void convertion(float c);
 4
 5    int main()
 6    {
 7        float temp;
 8        cout<<"Enter the Temperature in Celsius: ";
 9        cin>>temp;
10        float *p = &temp;
11        convertion( *p );
12    }
13
14    void convertion(float c)
15    {
16        float f;
17        f = ((9.0/5.0)* c) + 32;
18        cout<<"Temperature in Fahrenheit is: "<<f<<endl;
19    }
20
```

Output:

```
TERMINAL   OUTPUT   PROBLEMS   DEBUG CONSOLE

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\OOP_lab_Task> cd "d:\OOP_lab_Task"
PS D:\OOP_lab_Task> & .\"Q2.exe"
Enter the Temperature in Celsius: 31
Temperature in Fahrenheit is: 87.8
PS D:\OOP_lab_Task> []
```

Q No.3: Write a program to convert kilogram into grams, by passing pointers as arguments to the function. (Take values from user at runtime)

Code:

```cpp
#include<iostream>
using namespace std;
void mass(float g);

int main()
{
    float m;
    cout<<"Enter the amount in Kilograms: ";
    cin>>m;
    float *p = &m;
    mass(*p);
}

void mass(float g)
{
    float kg;
    kg= g*1000;
    cout<<"Entered amount in grams: "<<kg<<"g"<<endl;
}
```

Output:

Q No.4: Write a program to find out the length of string by using pointers.
(Take string value from user at runtime)

Code:

```cpp
#include<iostream>
using namespace std;
void length(char *);

int main()
{
    char str[100];
    cout << "Enter a string: ";
    cin.get(str,100);
    length( str );

}

void length(char *a)
{
    int count = 0;
    while ( *a!='\0')
    {
        count++;
        *a++;
    }

    cout<<"Length of the string is "<<count<<endl;
}
```

Output:

```
TERMINAL    OUTPUT    PROBLEMS    DEBUG CONSOLE

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\OOP_lab_Task> cd "d:\OOP_lab_Task"
PS D:\OOP_lab_Task> & .\"Q4.exe"
Enter a string: Saad Ahmad (20P-0051)
Length of the string is 21
PS D:\OOP_lab_Task>
```

Q No.5: Write a program to copy one string to another string by using pointers.
 (Take string value from user at runtime)

Code:

```cpp
Q5.cpp    X

Q5.cpp >   copy(char *)
1    #include<iostream>
2    using namespace std;
3    void copy(char *);
4
5    int main()
6    {
7        char str1[100];
8        cout << "Enter a string: ";
9        cin.getline(str1,100);
10       cout<<"The value of String 1 "<<str1<<endl;
11       copy( str1 );
12   }
13   void copy(char *a)
14   {
15       char str2[100];
16       int i=0;
17       while ( *a!='\0')
18       {
19           str2[i] = *a;
20           *a++;
21           i++;
22       }
23       str2[i]= '\0';
24       cout<<"The value of String 2 "<<str2<<endl;
25   }
```

Output:


```
TERMINAL    OUTPUT    PROBLEMS    DEBUG CONSOLE

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\OOP_lab_Task> cd "d:\OOP_lab_Task"
PS D:\OOP_lab_Task> & .\"Q5.exe"
Enter a string: Saad Ahmad
The value of String 1 Saad Ahmad
The value of String 2 Saad Ahmad
PS D:\OOP_lab_Task>
```

Q No.6: Write a program to combine two strings by using pointers.
(Take both strings value from user at runtime)

Code:

```cpp
#include<iostream>
using namespace std;
void combine(char *, char *);

int main()
{
    char str1[100];
    char str2[100];
    char str3[100];

    cout << "Enter a string 1: ";
    cin.getline(str1,100);

    cout << "Enter a string 2: ";
    cin.getline(str2,100);
    combine( str1, str2 );
}
void combine(char *a , char *b)
{
    char str3[100];
    int i=0,j=0;
    while ( *a!='\0')
    {
        str3[i] = *a;
        *a++;
        i++;
    }
    str3[i++];
    while (*b!='\0')
    {
        str3[i] = *b;
        *b++;
        i++;
    }
    str3[i]='\0';
    cout<<str3<<endl;
}
```

Output:

```
TERMINAL    OUTPUT    PROBLEMS    DEBUG CONSOLE

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\OOP_lab_Task> cd "d:\OOP_lab_Task"
PS D:\OOP_lab_Task> & .\"Q6.exe"
Enter a string 1: Saad
Enter a string 2: Ahmad
Saad
Ahmad
PS D:\OOP_lab_Task>
```