WEEK-6

#1 Write a C++ Program for Add Two Numbers Using Pointer.

This is the required program:

(globals)

Q1.cpp

```cpp
#include <iostream>

using namespace std;

int main() {
  int num1, num2;
  cout<<"enter the num1: "<<endl;
  cin>>num1;
  cout<<"enter the num2: "<<endl;
  cin>>num2;


  int *ptr1 = &num1;
  int *ptr2 = &num2;


  int sum = *ptr1 + *ptr2;

  
  cout << "The sum of the two numbers is: " << sum << endl;

  return 0;
}
```

And this is result:

```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q1.exe
enter the num1:
23
enter the num2:
43
The sum of the two numbers is: 66

--------------------------------
Process exited after 4.86 seconds with return value 0
Press any key to continue . . .
```

#2 Writea C++ Example Program for Swap Numbers Using Pointers.

This is the required code:

(globals)

Q2.cpp

```cpp
#include <iostream>

using namespace std;

void swap(int *a, int *b) {
  int temp = *a;
  *a = *b;
  *b = temp;
}

int main() {
  int num1, num2;
  cout<<"enter the num1: "<<endl;
  cin>>num1;
  cout<<"enetr the num2: "<<endl;
  cin>>num2;

  int *ptr1 = &num1;
  int *ptr2 = &num2;


  swap(ptr1, ptr2);


  cout << "num1= " << num1 << endl;
  cout << "num2= " << num2 << endl;

  return 0;
}
```

And this is the output:

```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q2.exe
enter the num1:
12
enetr the num2:
23
num1= 23
num2= 12

--------------------------------
Process exited after 3.855 seconds with return value 0
Press any key to continue . . .
```

#3 Write a C++ Program to Print the address of the Variable Using a Pointer.

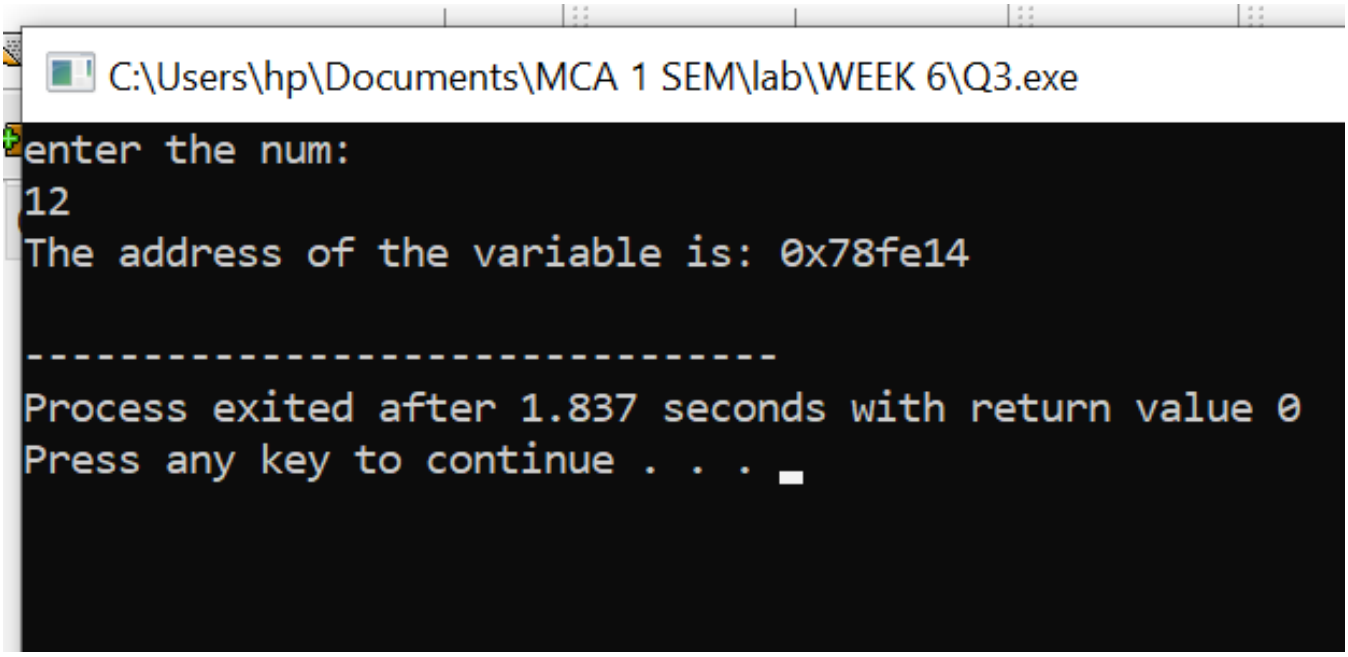
This is the required program:

(globals)

Q3.cpp

```cpp
#include<iostream>
using namespace std;
int main()
{
    int num;
    cout<<"enter the num: "<<endl;
    cin>>num;
    int *ptr = &num;
    cout<<"The address of the variable is: "<<ptr<<endl;
    return 0;
}
```

And this is the result:



#4 Write a C++ Program for Increment and Decrement Integer Using Pointer.

This is the required code:

Q4.cpp

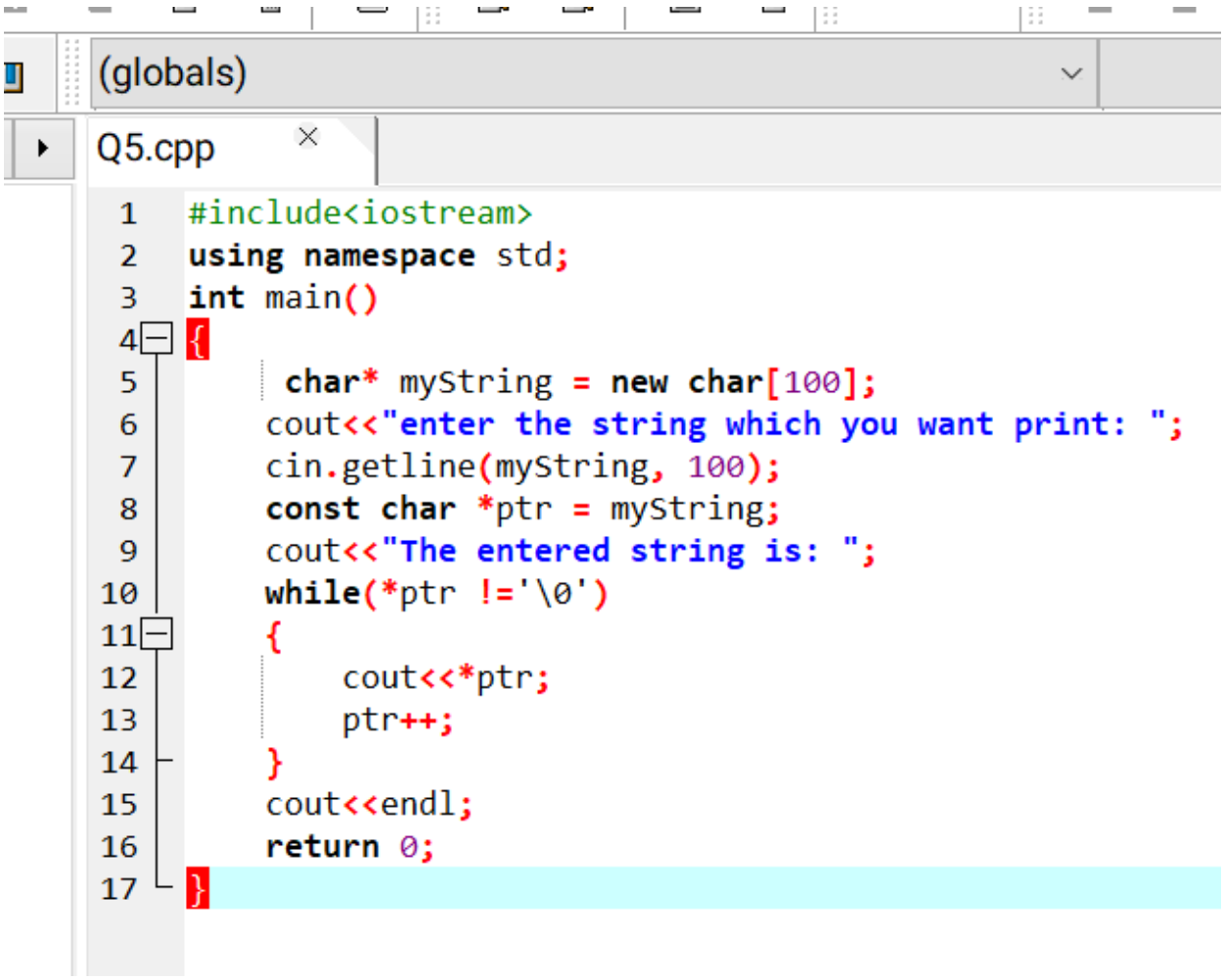
```cpp
#include<iostream>
using namespace std;
int main()
{
    int num;
    cout<<"enter the num: "<<endl;
    cin>>num;

    int *ptr = &num;
    *ptr = *ptr + 1;
    cout<<"the incrimented value of num is: "<<num<<endl;
    *ptr = *ptr - 2;
    cout<<"the dicrimented value of num is: "<<num<<endl;
    return 0;
}
```

And this is the result:

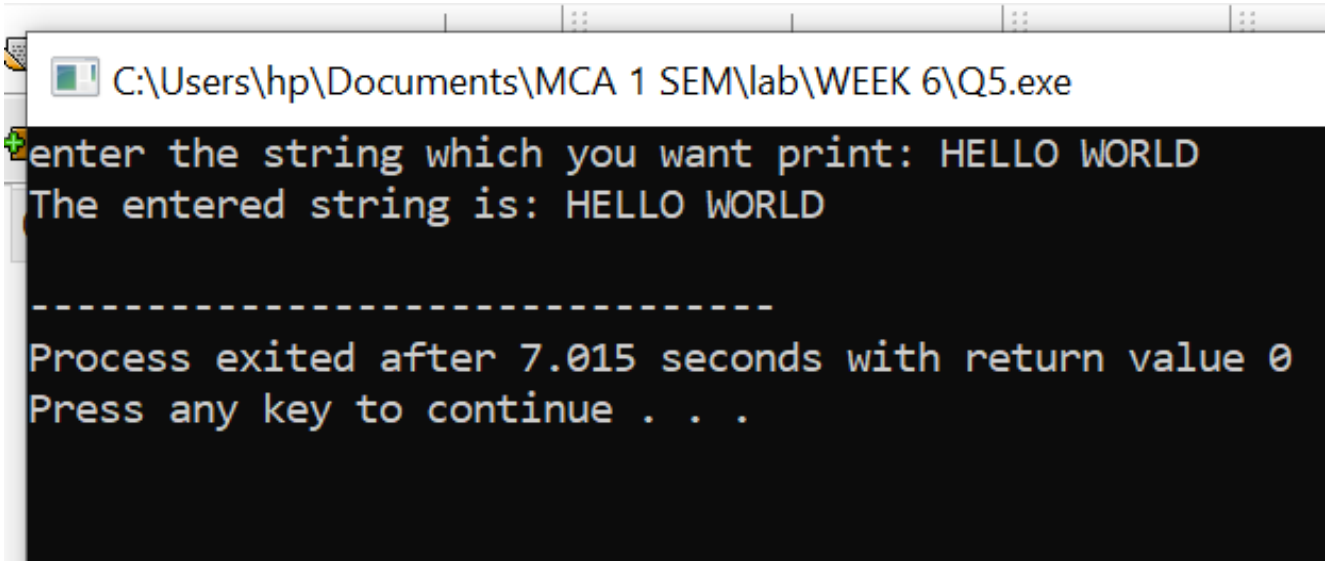
```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q4.exe
enter the num:
12
the incrimented value of num is: 13
the dicrimented value of num is: 11

--------------------------------
Process exited after 3.678 seconds with return value 0
Press any key to continue . . .
```

#5 Write a C++ Program for Print String Using Pointer.

This is the required code:



And this is output:



#6 Write a C++ program to concatenate two strings using pointers.

This is the required program:

Q6.cpp

```
#include<iostream>
using namespace std;
int main()
{
    char a[100], b[100], *p, *q;
    cout<<"Enter the first string: ";
    gets(a);
    cout<<"Enter the second string: ";
    gets(b);
    p=a; q=b;
    while(*p!='\0')
    p++;
    while(*q!='\0')
    q++;
    {
        *p=*q;
        p++;
        q++;
    }
    cout<<"New string is: "<<a<<b;
}
```

And this is the output:

```
using namespace std;
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q6.exe
Enter the first string: HELLO
Enter the second string: WORLD
New string is: HELLO WORLD
--------------------------------
Process exited after 6.636 seconds with return value 0
Press any key to continue . . .
```

#7 Write a program for reading elements using a pointer into an array and display the values using an array.

i. Declare a set of elements.

ii. Declare the pointer and initialize it to the first element address of a set of elements(array).

This is the required code:

Q7.cpp

```
#include<iostream>
using namespace std;
int main()
{
    int a[20], n, *p, i;
    cout<<"Enter the size of the array: ";
    cin>>n;
    cout<<"Enter the element of arraay: "<<endl;
    p=a;
    for(i=0; i<n; i++)
    {
        cin>>*p;
        p++;
    }
    cout<<"Display array using pointer: "<<endl;
    p=a;
    for(i=0; i<n; i++)
    cout<<a[i]<<" ";
}
```

And this is the result:

```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q7.exe
Enter the size of the array: 9
Enter the element of arraay:
2
1
3
4
3
5
6
9
0
Display array using pointer:
2 1 3 4 3 5 6 9 0
--------------------------------
Process exited after 12.77 seconds with return value 0
Press any key to continue . . .
```

#8 Write a program through a pointer variable to the sum of n elements from the array.

This the result:

Q8.cpp

```
1
2   #include<iostream>
3   using namespace std;
4   int main()
5   {
6       int n, sum=0;
7       cout<<"Enter the size off array: ";
8       cin>>n;
9       cout<<"Enter the"<<n<<" element of array: "<<endl;
10      int*p=new int[n];
11      for(int i=0; i<n; i++)
12      {
13          cin>>*p;
14          p++;
15      }
16      for(int i=0; i<n; i++)
17      p--;
18      for(int i=0; i<n; i++)
19      {
20          sum+=*p;
21          p++;
22      }
23      cout<<"sum of given array is: "<<sum<<endl;
24  }
```

And this is the result:

```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q8.exe
Enter the size off array: 5
Enter the5 element of array:
1
7
5
8
9
sum of given array is: 30

--------------------------------
Process exited after 8.009 seconds with return value 0
Press any key to continue . . .
```

#9 Write a program for reading elements using a pointer into the array and display the values using an array.

This is the required program:

Q9.cpp

```
#include<iostream>
using namespace std;
int main()
{
    int a[20], n, *p,i;
    cout<<"Enter the size of array: ";
    cin>>n;
    cout<<"Enter the element of array: "<<endl;
    p=a;
    for(i=0; i<n; i++)

    {
        cin>>*p;
        p++;
    }
    cout<<"Display array using pointer: "<<endl;
    p=a;
    for(i=0; i<n; i++)
    cout<<a[i]<<" ";

}
```

And this is the output:

```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q9.exe
Enter the size of array: 4
Enter the element of array:
45
32
76
56
Display array using pointer:
45 32 76 56
--------------------------------
Process exited after 11.23 seconds with return value 0
Press any key to continue . . .
```

#10 Write a C++ program to reverse a string using pointers.

This is the required code:

Q10.cpp

```cpp
#include<iostream>
#include<string.h>
using namespace std;
int main()
{
    char *str;
    cout<<"enter the string: ";
    cin>>str;
    cout<<"original string::"<<str;
    cout<<endl<<"string after reverse::";
    for(int i=(strlen(str)-1); i>=0; i--)
    {
        cout<<str[i];
    }
    return 0;
}
```

And this is the result:

```
C:\Users\hp\Documents\MCA 1 SEM\lab\WEEK 6\Q10.exe
enter the string: HELLO
original string::HELLO
string after reverse::OLLEH
--------------------------------
Process exited after 7.9 seconds with return value 0
Press any key to continue . . .
```