Task 1

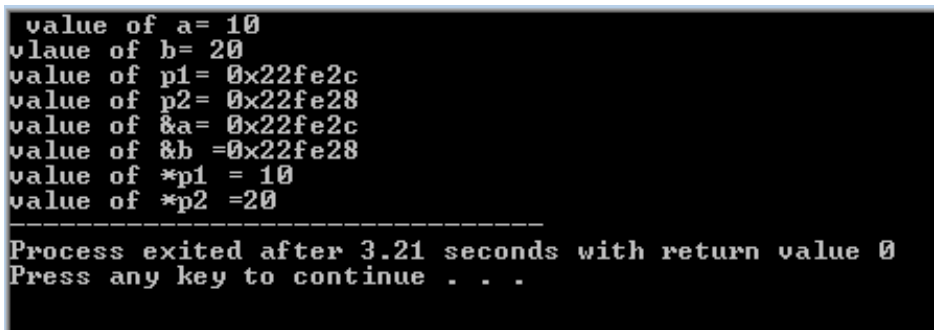
Compile all sample programs and get familiar with pointers

Sample 1

Code:

```
#include<iostream>
using namespace std;
int main()
{
int *p1,*p2;
int a=10,b=20;
p1=&a;
p2=&b;
cout<<" value of a= "<<a;
cout<<" \nvlaue of b= "<<b;
cout<<" \nvalue of p1= "<<p1;
cout<<" \nvalue of p2= "<<p2;
cout<<" \nvalue of &a= "<<&a;
cout<<" \nvalue of &b ="<<&b;
cout<<" \nvalue of *p1 = " <<*p1;
cout<<" \nvalue of *p2 ="<<*p2;
return 0;
}
```

Output:

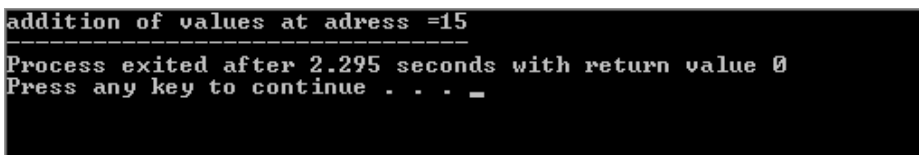


Sample 2

Code:

```
#include<iostream>

using namespace std;

int main()

{

int a=5,b=10,c,*p1,*p2,*s;

p1=&a;

p2=&b;

s=&c;

*s=*p1+*p2;

cout<<"addition of values at adress =" <<*s;

return 0;

}
```

Output:

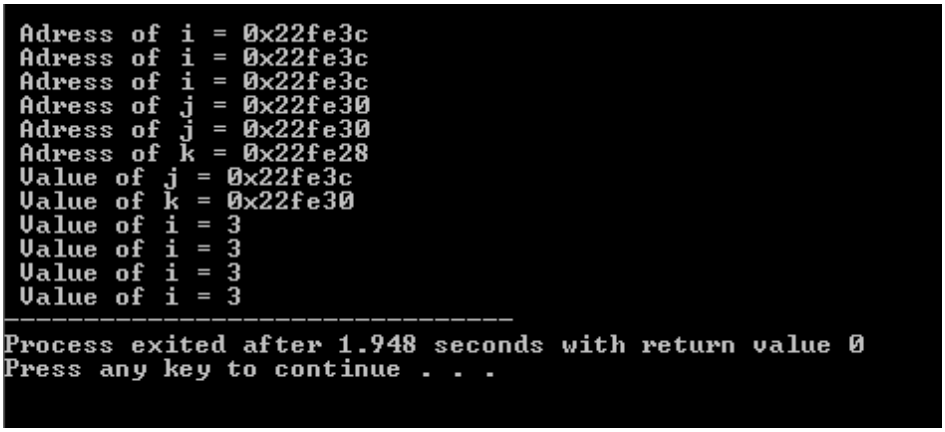


Sample 3

Code:

```
#include<iostream>
using namespace std;
int main()
{
 int i=3,*j,**k;
 j=&i;
 k=&j;
 cout<<"\n Adress of i = "<<&i;
 cout<<"\n Adress of i = "<<j;
 cout<<"\n Adress of i = "<<*k;
 cout<<"\n Adress of j = "<<&j;
 cout<<"\n Adress of j = "<<k;
 cout<<"\n Adress of k = "<<&k;
 cout<<"\n Value of j = "<<j;
 cout<<"\n Value of k = "<<k;
 cout<<"\n Value of i = "<<i;
 cout<<"\n Value of i = "<<*(&i);
 cout<<"\n Value of i = "<<*j;
 cout<<"\n Value of i = "<<**k;
return 0;
}
```

Output:



Task 2

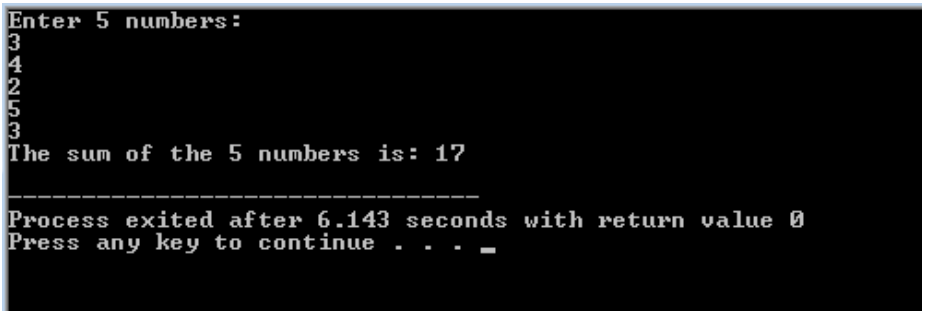
Create a C++ program to find the sum of 5 numbers using pointers

Code:

```
#include <iostream>

using namespace std;

int main() {

 int num[5];

 int sum = 0;


 cout << "Enter 5 numbers: " << endl;

 for(int i = 0; i < 5; i++) {

  cin >> num[i];

 }

 int *ptr = num;

 for(int i = 0; i < 5; i++) {

  sum += *ptr;

  ptr++;

 }
```

```
 cout << "The sum of the 5 numbers is: " << sum << endl;
 return 0;
}
```

Output:



Task 3

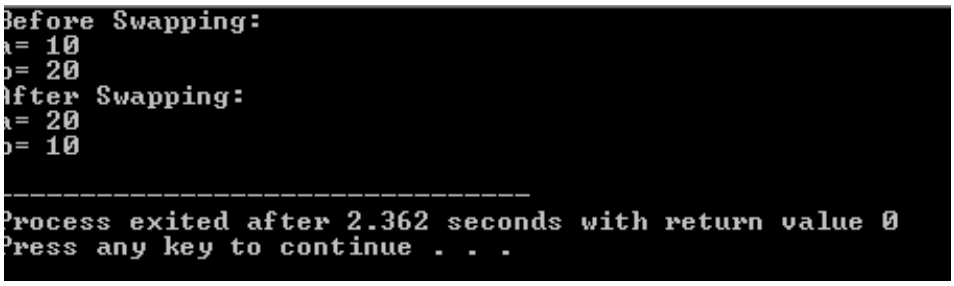
Create a C++ program to swap the values of two variables using pointer notation.

Code:

```
#include<iostream>
using namespace std;
void swap(int *ptr1,int *ptr2){
        int *ptr3;
        *ptr3=*ptr1;
        *ptr1=*ptr2;
        *ptr2=*ptr3;
}
main(){
        int a=10,b=20, *ptr1=&a, *ptr2=&b;
        cout<<"Before Swapping:\n";
        cout<<"a= "<<a<<endl<<"b= "<<b<<endl;
        swap(*ptr1,*ptr2);
```

```
    cout<<"After Swapping:\n";
    cout<<"a= "<<a<<endl<<"b= "<<b<<endl;
}
```

Output:



Task 4

Using the concept of pointer to pointer create a program which add two float values

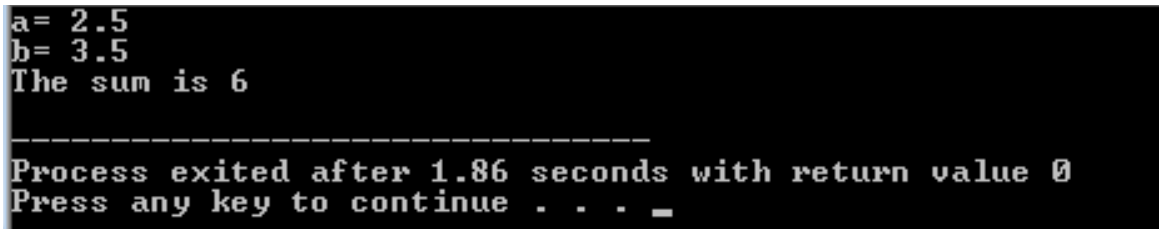
*(*p1)+*(*p2)

Code:

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

int main() {
   float a = 2.5;
   float b = 3.5;
   cout<<"a= "<<a<<endl;
   cout<<"b= "<<b<<endl;
   float* p1 = &a;
   float* p2 = &b;
   float** pp1 = &p1;
   float** pp2 = &p2;
   **pp1 += **pp2;
```

```
    cout << "The sum is " << **pp1 << endl;
    return 0;
}
```

Output:



Task 5

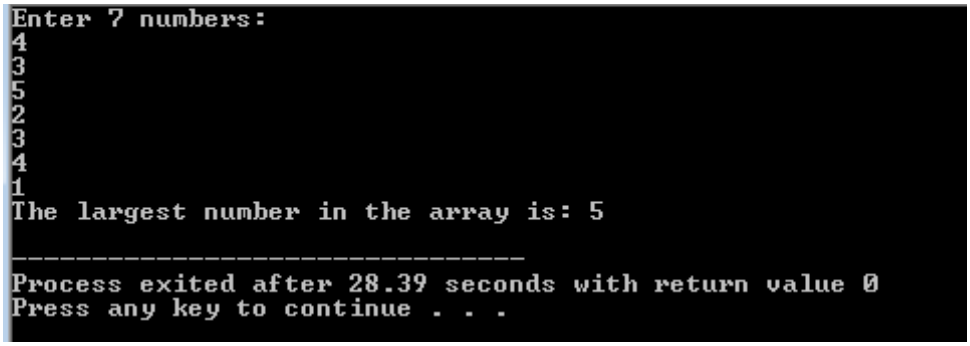
Compiler a C++ program to find the largest number from the array of 7 numbers using pointer

Code:

```
#include<iostream>
using namespace std;
main(){
        int arr[7];
        cout<<"Enter 7 numbers: \n";
        for(int i=0;i<7;i++){
                cin>>arr[i];
        }
        int *ptr=arr;
        int max=*ptr;
        for (int i = 1; i < 7; i++)
  {
     ptr++;
     if (*ptr > max)
```

```
    {
        max = *ptr;
    }
  }
  cout << "The largest number in the array is: " << max << endl;
}
```

Output:



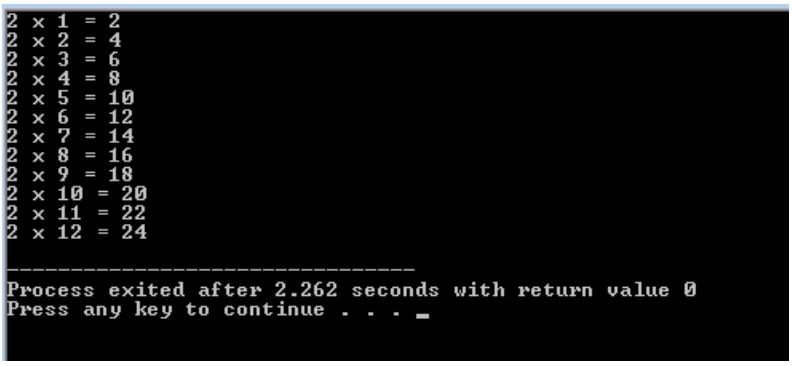
Task 6

Create a program which print the table of 2 upto 12 using pointers

Code:

```
#include <iostream>
using namespace std;
int main() {
  int num = 2;
  int *ptr = &num;
  for(int i = 1; i <= 12; i++) {
    cout << *ptr << " x " << i << " = " << (*ptr * i) << endl;
  }
  return 0;
}
```

Output:


2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20
2 x 11 = 22
2 x 12 = 24
Process exited after 2.262 seconds with return value 0
Press any key to continue . . .