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Sectio. A
Reg No: 2021 BSE 032
Course: Programming Fundamentals

LAB 7 and 8

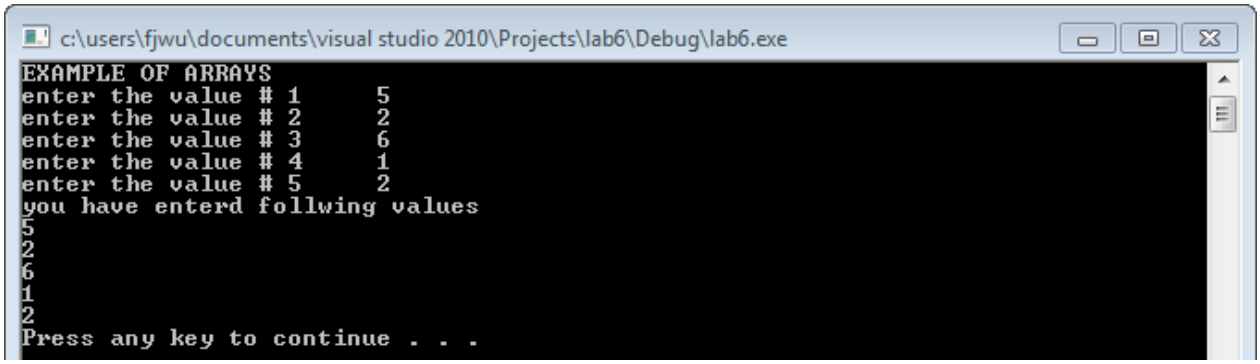
TASK#1

Sample problem#1

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	cout<<"EXAMPLE OF ARRAYS"<<endl;
	int a[5];
	for(int i=0;i<5;i++)
	{
	cout<<"enter the value # "<<i+1<<"\t";
	cin>>a[i];
	}
	cout<<"you have enterd follwing
	values"<<endl; for(int j=0;j<5;j++)
	{
		cout<<a[j]<<endl;
	}
	system("pause");

	return 0;
}
```

OUTPUT



Sample problem#2

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int avg, sum = 0 ;
	int i ;
	int marks[10] ; /* array declaration
	*/ for ( i = 0 ; i <= 9 ; i++ )
	{
		cout<<"enter marks";
		cin>>marks[i]; /* store data in array */
	}
	for ( i = 0 ; i <= 9 ; i++ )
		sum = sum + marks[i] ; /* read data from an array*/
	avg = sum / 10 ;
	cout<<"average ="<<avg ;
	system("pause");
	return 0;
}
```

OUTPUT

TASK#2

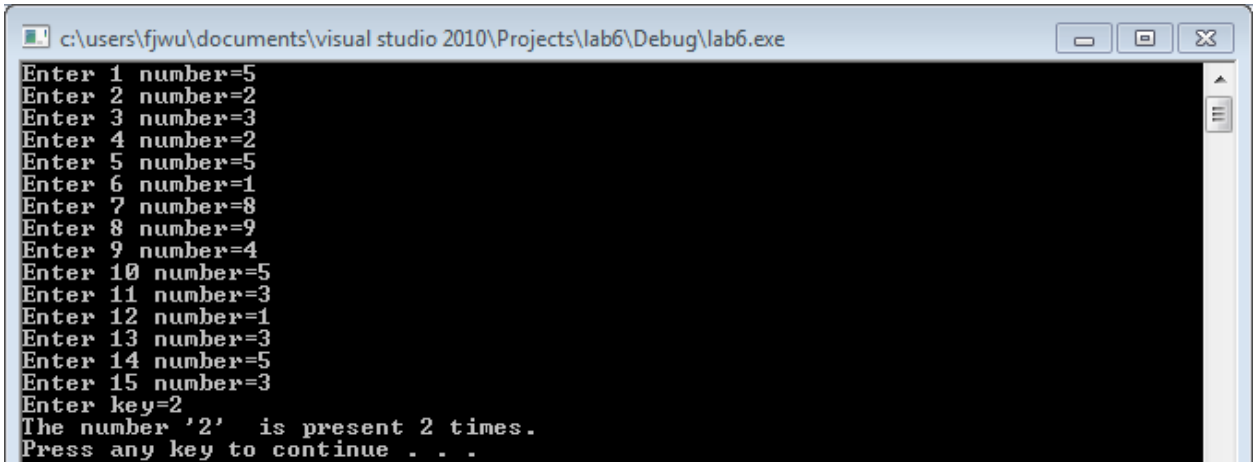
Create a program which take 15 input from user. Ask the user to enter a key your program should search for the key if it is present in array? If yes then also print the

number of times the key is present?

CODE:

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int a[15],key,count=0;
	for(int i=0;i<15;i++)
	{
		cout<<"Enter "<<i+1<<" number=";
		cin>>a[i];
	}
	cout<<"Enter key=";
	cin>>key;
	for(int i=0;i<15;i++)
	{
			if(key==a[i])
			 count++;
	}
	cout<<"The number '"<<key<<"' is present "<<count<<" times."<<endl;
	system("pause");
	return 0;
}
```

OUTPUT



TASK#3

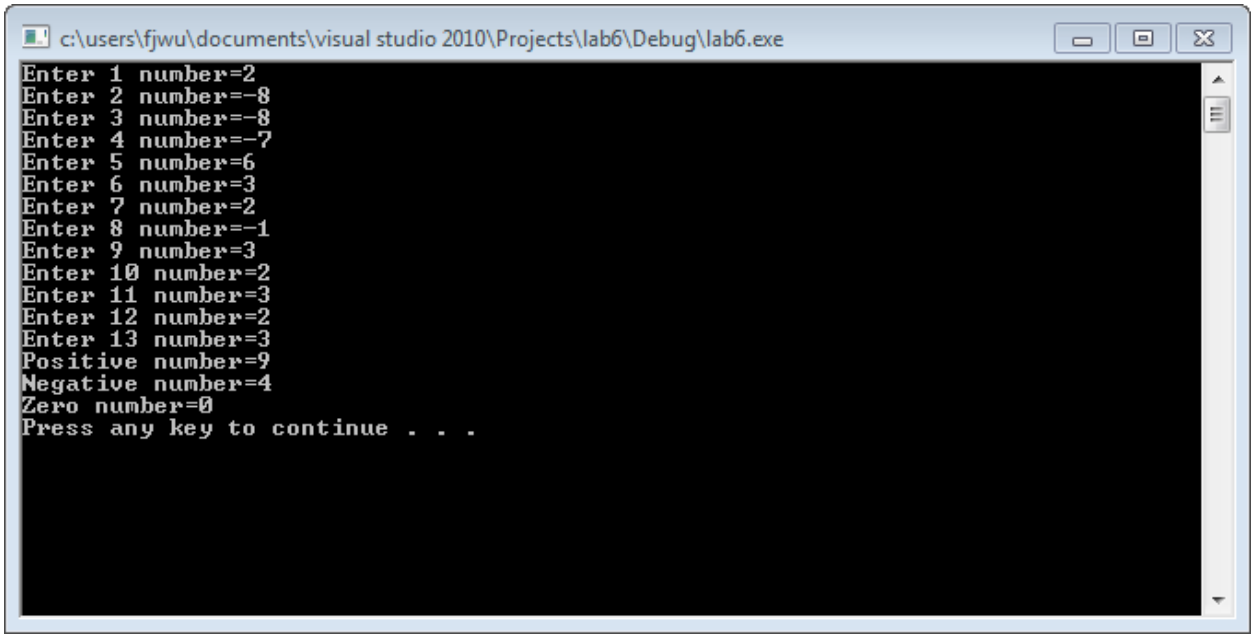
Create a C++ program to take 13 inputs from user in an array. Your program should count the number of zeros, no of positive integers, no of negative integers entered by user.

CODE:

```
#include "stdafx.h"
```

```
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int a[13],pn=0,nn=0,zn=0;
	for(int i=0;i<13;i++)
	{
		cout<<"Enter "<<i+1<<" number=";
		cin>>a[i];
	}
	for(int i=0;i<13;i++)
	{
		if(a[i]>0)
			pn++;
		else if(a[i]<0)
			nn++;
		else
			zn++;
	  }
	cout<<"Positive number="<<pn<<endl;
	cout<<"Negative
	number="<<nn<<endl; cout<<"Zero
	number="<<zn<<endl; system("pause");
	return 0;
}
```

OUTPUT



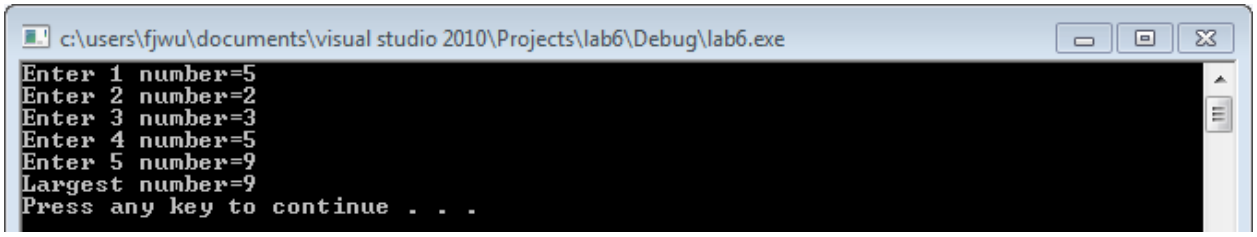
TASK#4

Create a program to find the largest number from array of 5 elements entered by user.

CODE:

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int a[5],lar;
	for(int i=0;i<5;i++)
	{
		cout<<"Enter "<<i+1<<" number=";
		cin>>a[i];
	}
	lar=a[0];
	for(int i=1;i<5;i++)
	{
		if(a[i]>lar)
			lar=a[i];
	}
	cout<<"Largest number="<<lar<<endl;
	system("pause");
	return 0;
}
```

OUTPUT



TASK#5

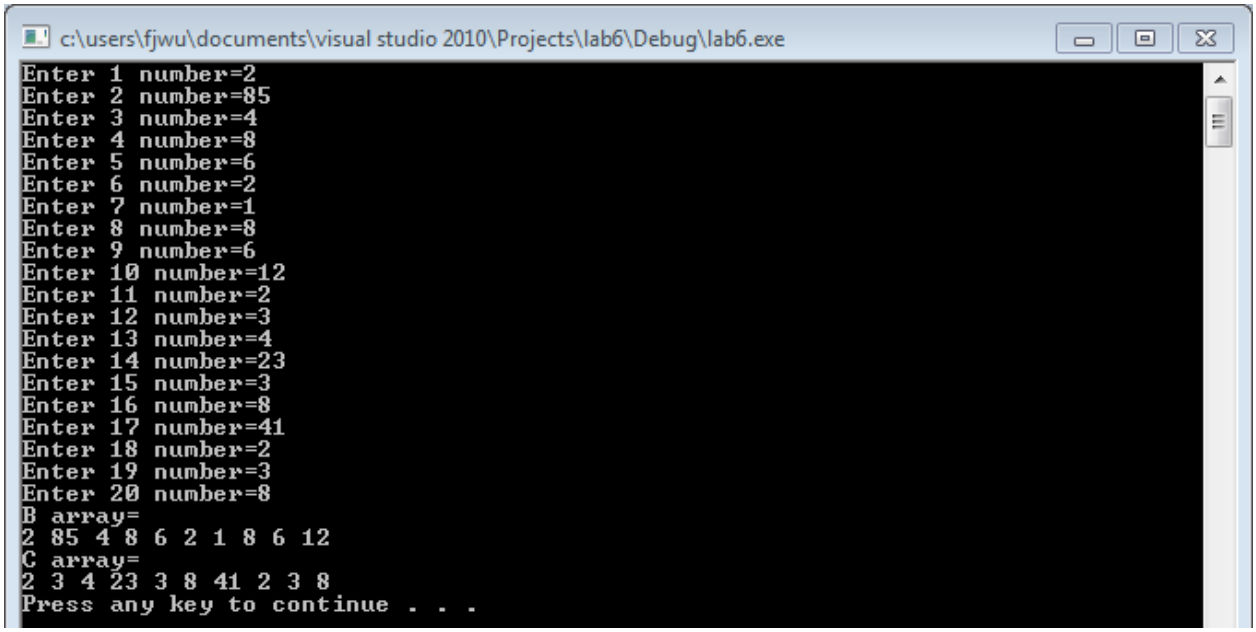
Write a program to take 20 values from user in an array. your code should divide the array in two equal parts

CODE:

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int A[20],B[10],C[10];
```

```
	for(int i=0;i<20;i++)
	{
		cout<<"Enter "<<i+1<<" number=";
		cin>>A[i];
	}
	for(int i=0;i<10;i++)
	{
		B[i]=A[i];
	}
	for(int i=0;i<10;i++)
	{
		C[i]=A[i+10];
	}
	cout<<"B array="<<endl;
	for(int i=0;i<10;i++)
	{
		cout<<B[i]<<" ";
	}
	cout<<endl;
	cout<<"C array="<<endl;
	for(int i=0;i<10;i++)
	{
		cout<<C[i]<<" ";
	}
	cout<<endl;
	system("pause");
	return 0;
}
```

OUTPUT



LAB#8

TASK#1

Sample problem#1

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int A[2][3];
	// taking input in 2D array from
	user for(int i=0;i<2;i++)
	{
		for(int j=0;j<3;j++)
		{
			cout<<"Enter value atindex \t" <<i<<j<<endl;
			cin>>A[i][j];
		}
	}
	//Display value stored in 2D
	Array for(int w=0;w<2;w++)
	{
		for(int x=0;x<3;x++)
		{
			cout<<A[w][x]<<"\t";
		}
		cout<<endl;
	}
	system("pause");
	return 0;
}
```

OUTPUT

TASK#2

Create program which take two matrices of size 3x3 from the user, your program should calculate the sum of both the matrices and display the result on the screen in the form of matrix

CODE

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
	int a[3][3],b[3][3],sum[3][3];
	cout<<"Enter 9numbersof first matrice of [3][3]:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
		cin>>a[i][j];
		}
	}
	cout<<"Enter 9 numbers of second matrice of
	[3][3]:"; for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>b[i][j];
		}
	}
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			sum[i][j]=a[i][j]+b[i][j];
		}
	}
	cout<<"First Matrice"<<endl;
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cout<<a[i][j]
			; cout<<"\t";
		}
		cout<<endl;
```

```
        }
        cout<<"Second matrice:"<<endl;
        for(int i=0;i<3;i++)
        {
                for(int j=0;j<3;j++)
                {
                cout<<b[i][j];
                cout<<"\t";
                }
                cout<<endl;
        }
        cout<<"Sum of two
        matrices"<<endl; for(int i=0;i<3;i++)
        {
                for(int j=0;j<3;j++)
                {
                        cout<<sum[i][j];
                        cout<<"\t";
                }
                cout<<endl;
        }
        system("pause");
        return 0;
}
```

OUTPUT

TASK#3

Create program which take two matrices of size 6x6 from the user, your program should perform the subtraction of the matrices and display the result on the screen in the form of matrix

CODE

```
#include "stdafx.h"
#include<iostream>
using namespace
std;
int _tmain(int argc, _TCHAR* argv[])
{
	int a[3][3],b[3][3],sub[3][3];
	cout<<"Enter 9numbersof first matrice of [3][3]:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>a[i][j];
		}
	}
```

```
cout<<"Enter 9 numbers of second matrice of
[3][3]:"; for(int i=0;i<3;i++)
{
	for(int j=0;j<3;j++)
	{
		cin>>b[i][j];
	}
}
for(int i=0;i<3;i++)
{
	for(int j=0;j<3;j++)
	{
		sub[i][j]=a[i][j]+b[i][j];
	}
}
cout<<"First Matrice"<<endl;
for(int i=0;i<3;i++)
{
	for(int j=0;j<3;j++)
	{
		cout<<a[i][j]
		; cout<<"\t";
	}
	cout<<endl;
}
cout<<"Second matrice:"<<endl;
for(int i=0;i<3;i++)
{
	for(int j=0;j<3;j++)
	{
	cout<<b[i][j];
	cout<<"\t";
	}
	cout<<endl;
	}
	cout<<"Subtraction of two matrices"<<endl; for(int i=0;i<3;i++)
{
	for(int j=0;j<3;j++)
	{
		cout<<sub[i][j]
		; cout<<"\t";
	}
	cout<<endl;
}
system("pause");
```

```
    return 0;
}
```

OUTPUT

TASK#4

Create program to create a 3D Array having size [3][2][2] take values from user then display the values.

CODE:

```
#include "stdafx.h"
#include<iostream>
using namespace std;
int _tmain(int argc, _TCHAR* argv[])
{
    int a[3][2][2];
    cout<<"Enter numbers for 3 dimensional
    array="; for(int i=0;i<3;i++)
    {
        for(int j=0;j<2;j++)
        {
            for(int k=0;k<2;k++)
            {
                cin>>a[i][j][k];
            }
        }
    }
```

```
        cout<<"Three dimensional
        Array"<<endl; for(int i=0;i<3;i++)
        {
                for(int j=0;j<2;j++)
                {
                        for(int k=0;k<2;k++)
                        {
                                cout<<a[i][j][k];
                                cout<<"\t";
                        }
                        cout<<endl;
                }
                cout<<endl;
        }

        system("pause");
        return 0;
}
```

OUTPUT