Fundamentals of programming
Lab task 9

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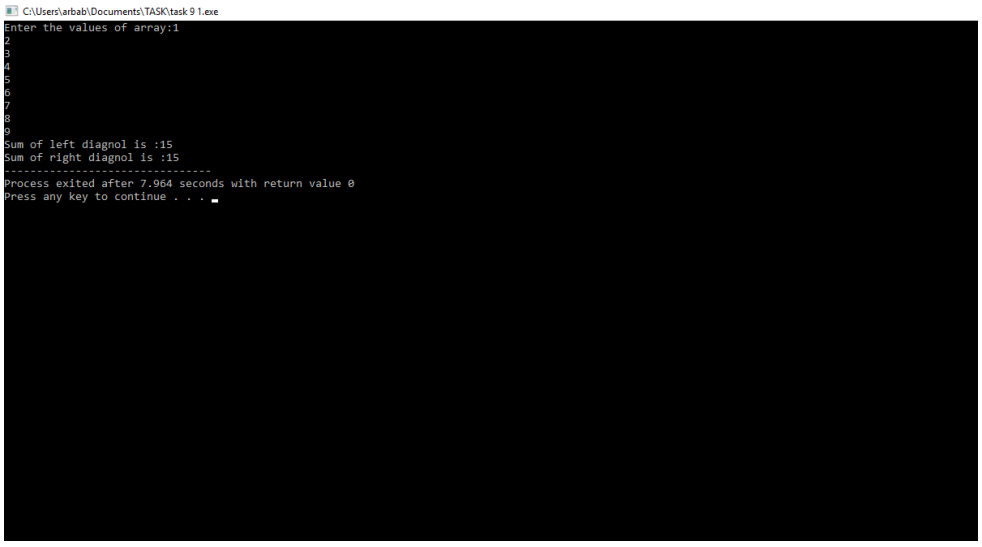
CLASS	**ME-15**
SECTION	**A**

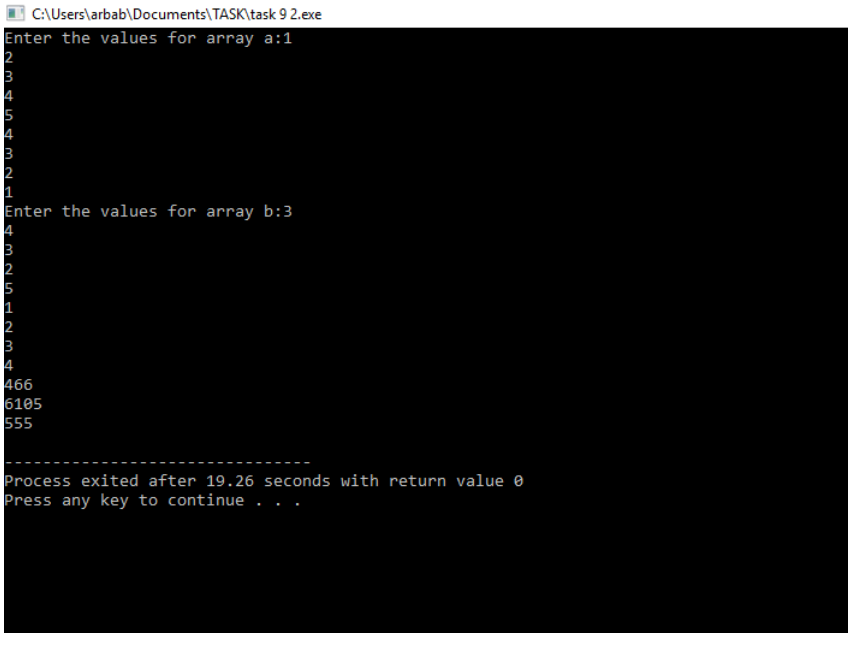
TASK 1

```
#include<iostream>
using namespace std;
int main()
{
	int a[3][3],sum1(0),sum2(0);
	cout<<"Enter the values of array:";
	for(int i=0;i<3;i++)
	{
	for(int j=0;j<3;j++)
	{
		cin>>a[i][j];
	}
	}
	for(int i=0;i<3;i++)
	{
	for(int j=0;j<3;j++)
	{
	if(i==j)
	{
	sum1=sum1+a[i][j];
	}
	if(i+j==2)
	{
	sum2=sum2+a[i][j];
	}
	else
	{
	continue;
	}
	}
	}
	cout<<"Sum of left diagnol is :"<<sum1<<endl;
	cout<<"Sum of right diagnol is :"<<sum2;
}
```



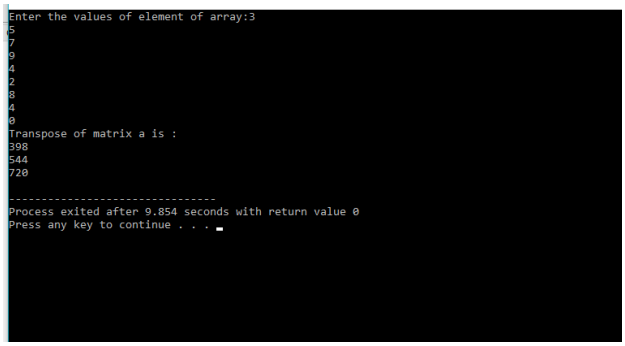
TASK 2

```
#include<iostream>
using namespace std;
void add(int arr[3][3],int arr2[3][3])
{
	int add[3][3];
for(int i=0;i<3;i++)
{

	for(int j=0;j<3;j++)
	{
		add[i][j]=arr[i][j]+arr2[i][j];
		cout<<add[i][j];
	}
	cout<<endl;
	}

}
int main()
{
	int a[3][3],b[3][3],sum[3][3];
	cout<<"Enter the values for array a:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>a[i][j];
		}
	}
		cout<<"Enter the values for array b:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>b[i][j];
		}
	}
	add(a,b);


}
```



TASK 3

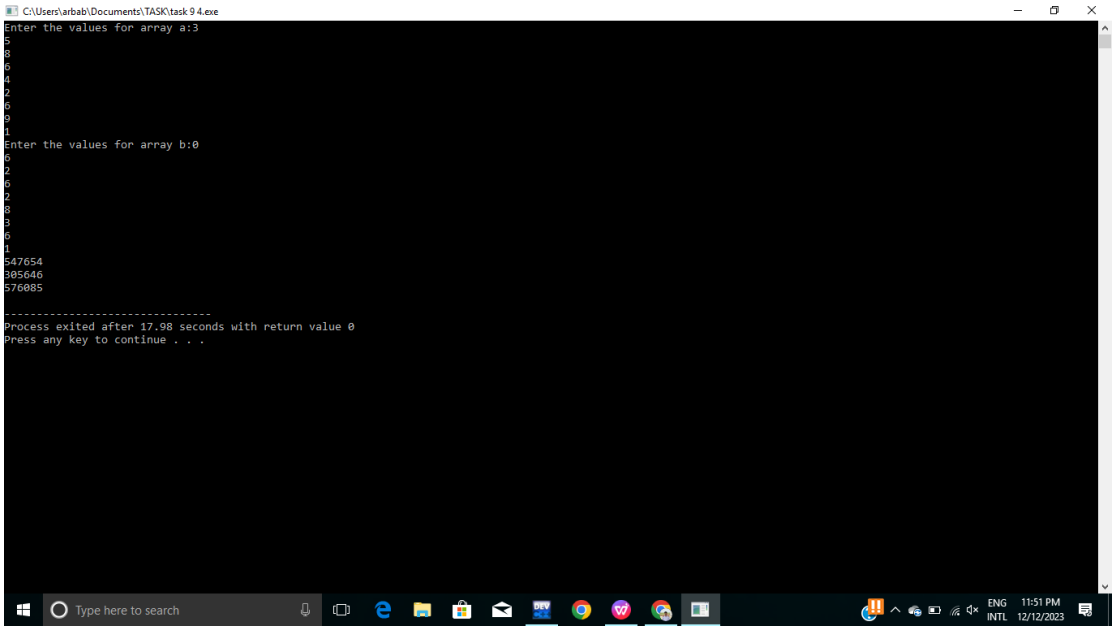
```
#include<iostream>
using namespace std;
int transpose(int arr[3][3])
{
	int temp;
	for(int i=0;i<3;i++)
	{
	 for(int j=0;j<3;j++)
	 {if(i<j)
	 {
		temp=arr[i][j];
		arr[i][j]=arr[j][i];
		arr[j][i]=temp;
	 }
	 }
	}
}
int main()
{
	int a[3][3],temp;
	cout<<"Enter the values of element of array:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>a[i][j];
		}
	}
    transpose(a);
	cout<<"Transpose of matrix a is :"<<endl;
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
		 cout<<a[i][j];
		}
		cout<<endl;
	}
}
```



TASK 4

```
#include<iostream>
using namespace std;
int multiplication(int arr[3][3],int arr2[3][3])
{
	int product,sum[3][3]={{0,0,0},{0,0,0},{0,0,0}};
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
		product=arr[i][j]*arr2[j][0];
		sum[i][0]=sum[i][0]+product;
		}
	}	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
		product=arr[i][j]*arr2[j][1];
		sum[i][1]=sum[i][1]+product;
		}
	}	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
		product=arr[i][j]*arr2[j][2];
		sum[i][2]=sum[i][2]+product;
		}
	}
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cout<<sum[i][j];
		}
		cout<<endl;
	}
}
int main()
{
	int a[3][3],b[3][3];
	cout<<"Enter the values for array a:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>a[i][j];
		}
	}
		cout<<"Enter the values for array b:";
	for(int i=0;i<3;i++)
	{
		for(int j=0;j<3;j++)
		{
			cin>>b[i][j];
		}
	}
```

```
    multiplication(a,b);
}
```



TASK 5

```
#include<iostream>
using namespace std;
void recursion(int a,int n)
{
if(n>=0)
{
        int product;
        product=n*a;
        cout<<a<<"*"<<n<<"="<<product<<endl;
        recursion(a,n-1);
}
}

int main()
{
int num(15),times(10);
recursion(15,10);
return 0;
}
```