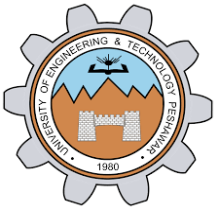

OOP LAB

Lab Report No. 01

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Submitted To: Engr. Sumayya Salahuddin

Section: B

Batch: 18

Department: CSE

Date: 4-10-2017

University of Engineering and Technology Peshawar

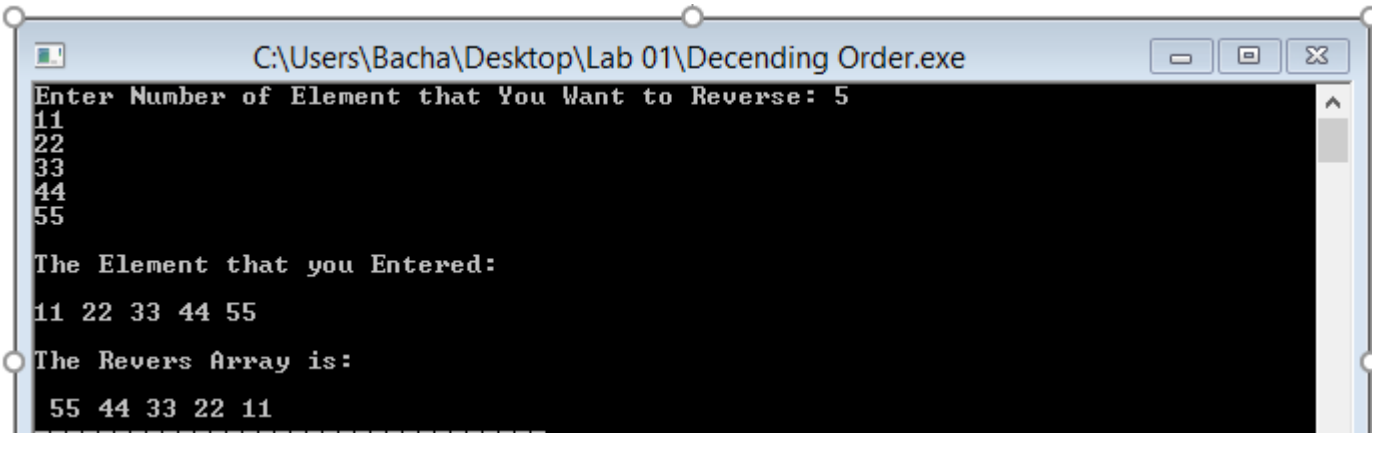
Task 01:

CODE:

```
#include<iostream>
#include<stdlib.h>
void swp(int &a,int &b);
using namespace std;
int main()
{
	int i,j,size;
	cout<<"Enter Number of Element that You Want to Reverse: ";
	cin>>size;
	int arr[size];
	for(i=0;i<size;i++)
	{
		cin>>arr[i];
	}
	cout<<endl<<"The Element that you Entered: "<<endl<<endl;
	for(i=0;i<size;i++)
	{
		cout<<arr[i]<<" ";
	}
	cout<<endl;
	for(i=0;i<size;i++)
	{
		for(j=0;j<size-1;j++)
		{
			if(arr[j]<arr[j+1])
			swp(arr[j],arr[j+1]);
		}
	}
	cout<<endl<<"The Revers Array is: "<<endl<<endl;
	for(i=0;i<size;i++)
	{
		cout<<" "<<arr[i];
	}

}
void swp(int &a,int &b)
{
	int temp;
	temp=a;
	a=b;
	b=temp;
}
```

RUN:

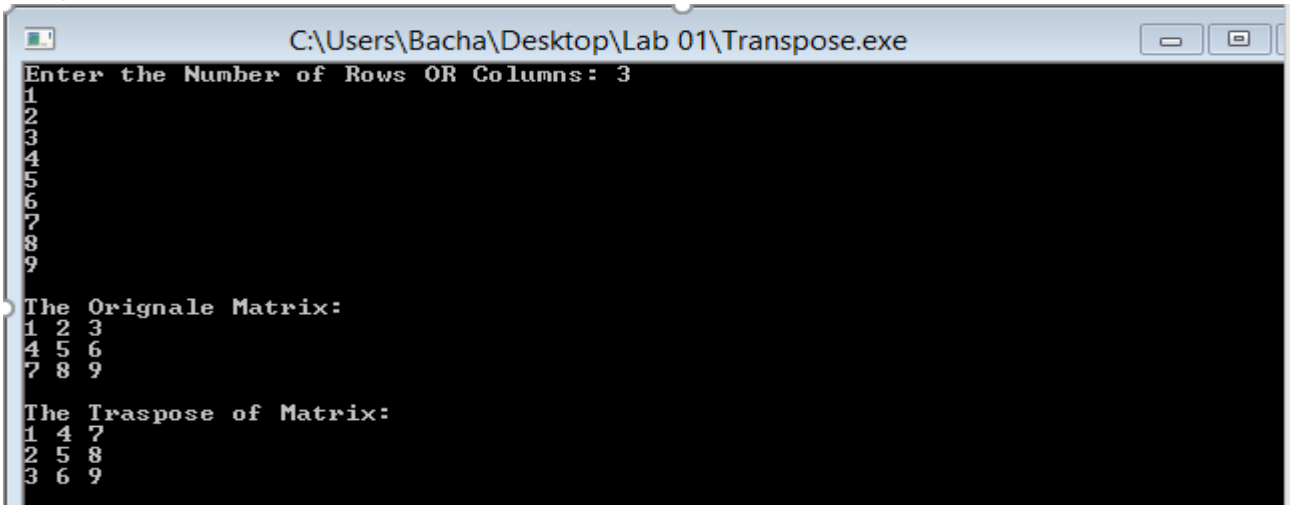


Task 2 : **1.2.3 Activity**

CODE:

```
#include<iostream>
using namespace std;
int main()
{
	int n,i,j;
	cout<<"Enter the Number of Rows OR Columns: ";
	cin>>n;
	int arr[n][n];
	int arrt[n][n];
	for(i=0;i<n;i++)
	{
		for(j=0;j<n;j++)
		{
			cin>>arr[i][j];
		}
	}
	cout<<endl;
	cout<<"The Orignale Matrix: "<<endl;
	for(i=0;i<n;i++)
	{
		for(j=0;j<n;j++)
		{
			cout<<arr[i][j]<<" ";
		}
		cout<<endl;
	}
	cout<<endl;
	for(i=0;i<n;i++)
	{
		for(j=0;j<n;j++)
		{
		   arrt[i][j]=arr[j][i];
		}
	}
	cout<<"The Traspose of Matrix: "<<endl;
	for(i=0;i<n;i++)
	{
		for(j=0;j<n;j++)
		{
			cout<<arrt[i][j]<<" ";
		}
		cout<<endl;
	}
	return 0;
}
```

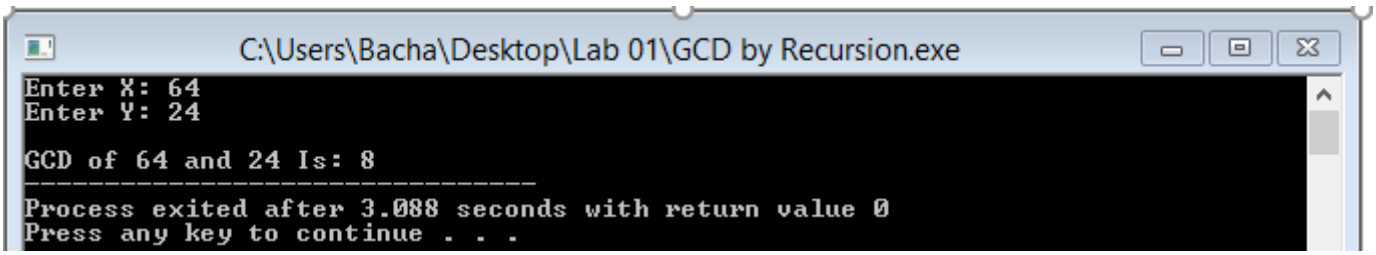
RUN:



TASK 03: 1.2.4 Activity

CODE:

```
#include<iostream>
int gcd(int x,int y);
using namespace std;
int main()
{
	int x,y;
	cout<<"Enter X: ";
	cin>>x;
	cout<<"Enter Y: ";
	cin>>y;
	cout<<endl<<"GCD of "<<x<<" and "<<y<<" Is: "<<gcd(x,y);
	return 0;
}
int gcd(int x,int y)
{
	if(y==0)
	return x;
	else
	return gcd(y,x%y);
}
```

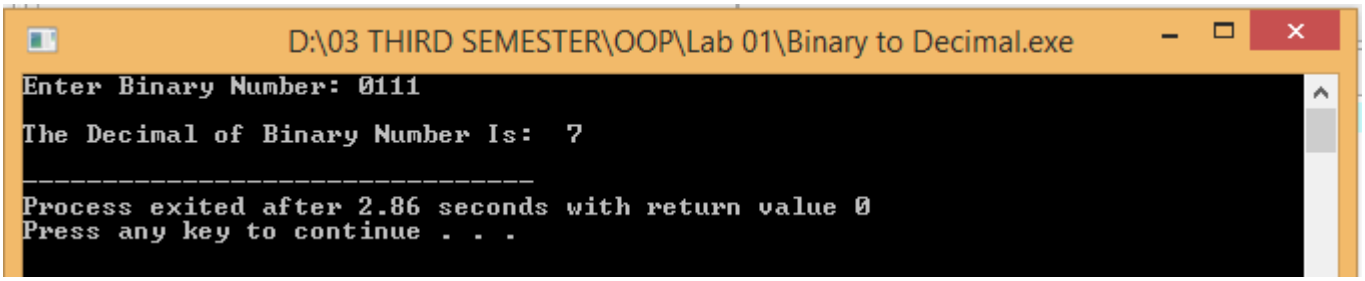


Task 04 1.2.7 Activity

CODE:

```
#include<iostream>
using namespace std;
int main()
{
	int binum,temp,i=1,decimal=0;
	cout<<"Enter Binary Number: ";
	cin>>binum;
	while(binum!=0)
	{
		temp=binum%10;
		decimal=decimal+temp*i;
		binum=binum/10;
		i=i*2;
	}
	cout<<endl<<"The Decimal of Binary Number Is:  "<<decimal<<endl;
	return 0;
}
```

RUN:

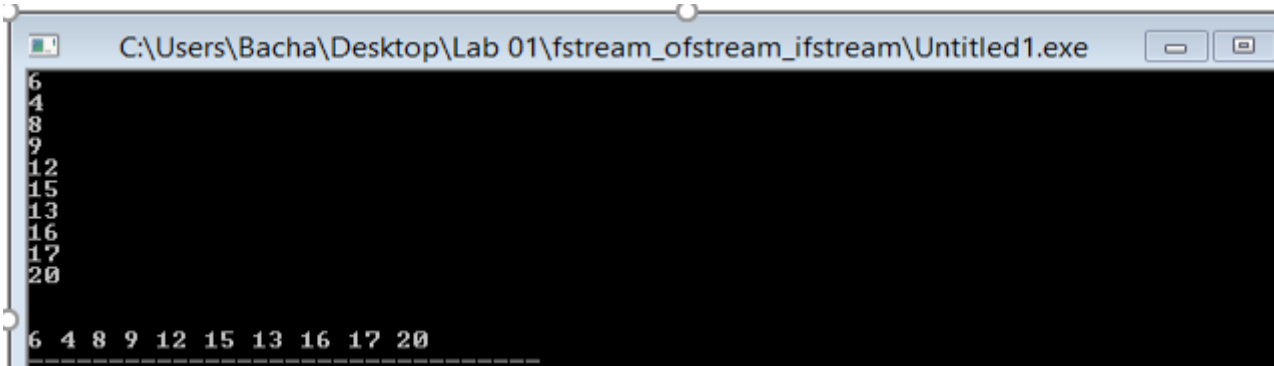


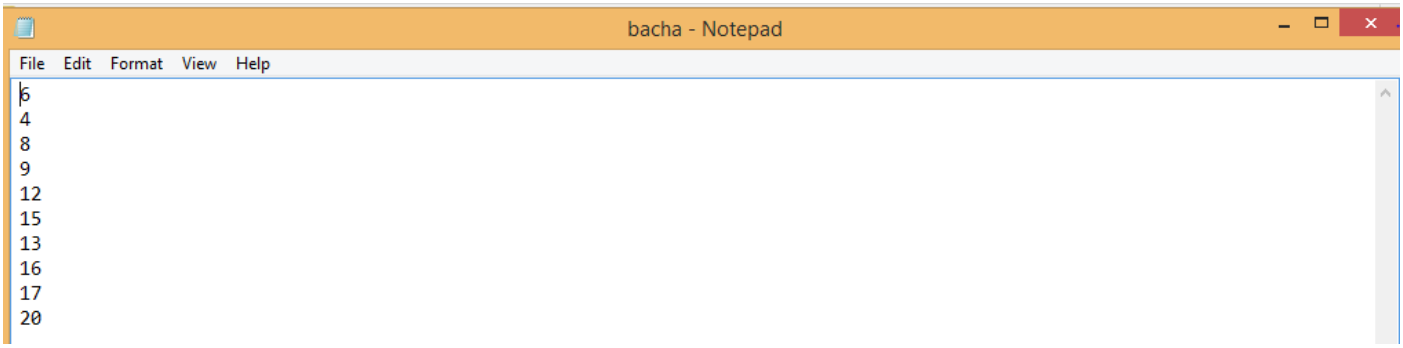
TASK 05 1.2.9 Activity

CODE:

```
#include<iostream>
#include<fstream>
using namespace std;
int main()
{
	int arr[10];
	ofstream file("bacha.txt");
	for(int i=0;i<10;i++)
	{
		cin>>arr[i];
	}
	if(!file.is_open())
	{
		cout<<"Not Open "<<endl;
	}
	else
	{
		for(int i=0;i<10;i++)
		{
			file<<arr[i]<<endl;
		}
	}
	cout<<endl<<endl;
	ifstream fileread;
	fileread.open("bacha.txt");
	if(!fileread.is_open())
	{
		cout<<"Error: ";
	}
	else
	{
		string line;
		while(fileread.good())
		{
			getline(fileread,line);
			cout<<line<<" ";
		}
	}
	return 0;
}
```

RUN:

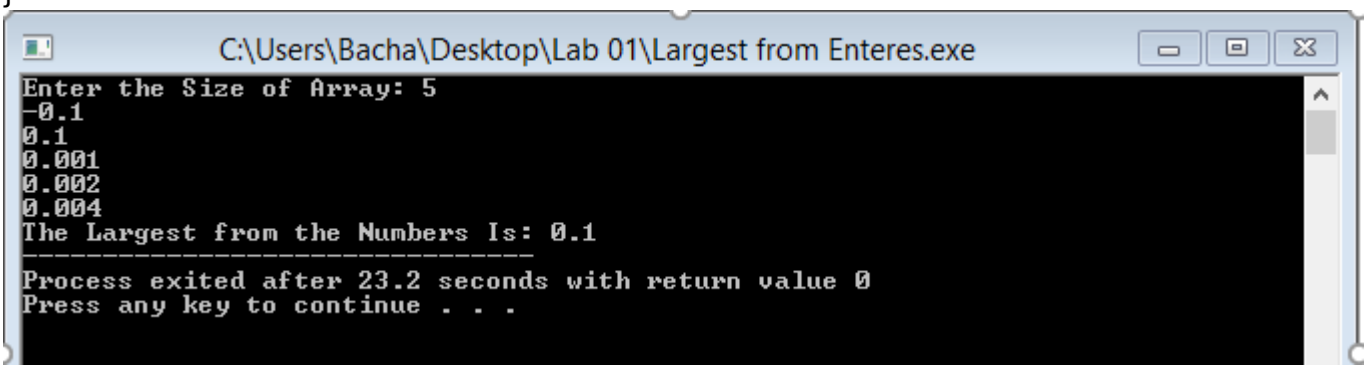




TASK 06: 1.2.5 Activity

CODE:

```
#include<iostream>
#include<stdlib.h>
using namespace std;
int main()
{
	int size,i,j;
	cout<<"Enter the Size of Array: ";
	cin>>size;
	float *arr = new float[size];
	for(i=0;i<size;i++)
	{
		cin>>*(arr+i);
	}
	for(i=1;i<size;i++)
	{
			if(arr[0]<*(arr+i))
			{
				arr[0]=*(arr+i);
			}
	}
	cout<<"The Largest from the Numbers Is: "<<arr[0]<<" ";
	return 0;
}
```



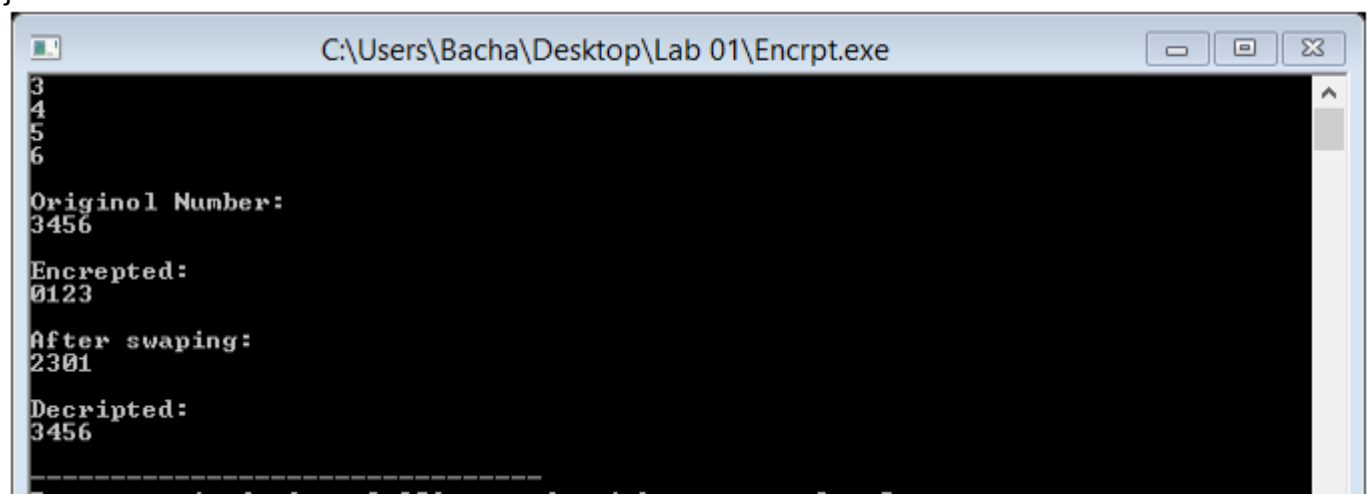
TASK 07: 1.2.6 Activity

CODE:

```
#include<iostream>
using namespace std;
int main()
```

```
{
	int arr[4],i,encr[4],decr[4];
	for(i=0;i<4;i++)
	{
		cin>>arr[i];
	}
	cout<<endl;
	cout<<"Originol Number: "<<endl;
	for(i=0;i<4;i++)
	{
		cout<<arr[i];
	}
	cout<<endl;
	for(i=0;i<4;i++)
	{
		encr[i]=(arr[i]+7)%10;
	}
	cout<<endl;
	cout<<"Encrepted: "<<endl;
	for(i=0;i<4;i++)
	{
		cout<<encr[i];
	}
	cout<<endl<<endl;
	cout<<"After swaping: "<<endl;
	cout<<encr[2]<<encr[3]<<encr[0]<<encr[1];

	for(i=0;i<4;i++)
	{
		decr[i]=(encr[i]+10)-7;
	}
	cout<<endl;
	cout<<endl<<"Decripted: "<<endl;
	for(i=0;i<4;i++)
	{
		cout<<decr[i];
	}
	cout<<endl;
	return 0;
}
```



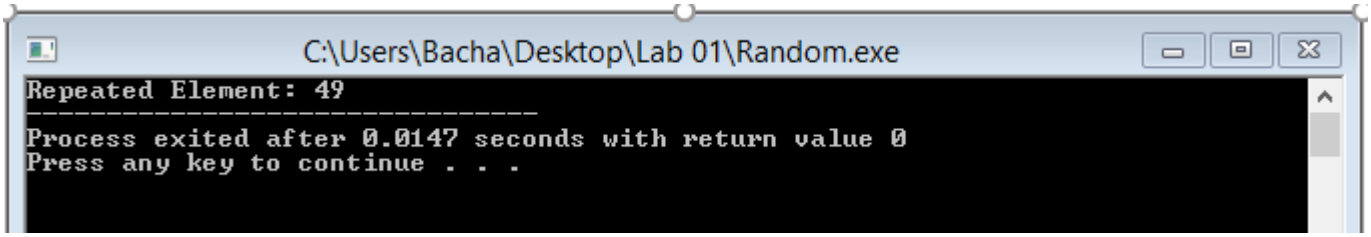
TASK 08: 1.2.8 Activity

CODE:

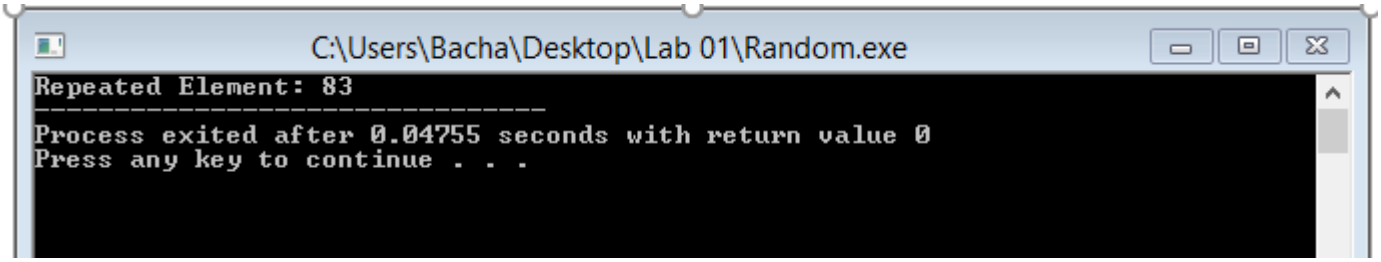
```
#include<iostream>
#include <stdlib.h>
#include <time.h>

using namespace std;
int main()
{
	int array[100],i;
	int repet[100]={};
	srand(time(NULL));
	for(i=0;i<100;i++)
	{
		array[i]=rand()%100;
	}
	for(i=0;i<100;i++)
	{
		repet[array[i]]++;
		if(repet[array[i]]==2)
		{
			cout<<"Repeated Element: "<<array[i];
			break;
		}
	}
	return 0;
}
```

RUN 1:



RUN 2:



Task 09: 1.2.2 Activity

CODE:

```
#include<iostream>
#include<cmath>
using namespace std;
int main()
{
	int n;
	double mean,ans=0,res,answer;
	double sum=0;
```

```
	cin>>n;
	int arr[n],i,j;
	for(i=0;i<n;i++)
	{
		cin>>arr[i];
	}

	for(i=0;i<n;i++)
	{
		sum+=arr[i];
	}
	cout<<"Totle: "<<sum<<endl;
	mean=sum/n;
	cout<<"Mean: "<<mean<<endl;
	for(i=0;i<n;i++)
	{
		ans+=pow((arr[i]-mean),2);
	}
	res=ans/(n-1);
	cout<<endl<<"Before squere root: "<<res<<endl;
	answer=pow(res,0.5);
	cout<<"Answer: (+-) ";
	cout<<answer;

	return 0;
}
```