A Practical Activity Report For
Data Structures and Algorithms (UCS406)

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Submitted To:

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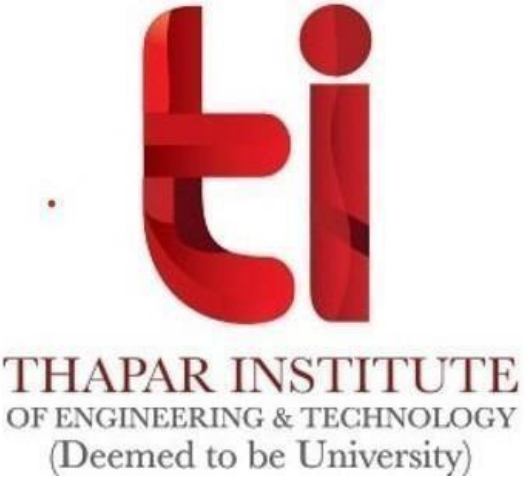

ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

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ASSIGNMENT 1

QUESTION 1(a):-

```
#include<iostream>
using namespace std;
int main()
{
	int N;
	cout<<"Enter the size of array whose sum is to be found";
	 cin>>N;
	int arr[N];
	int i;
	cout<<"Enter the elements of array";
	for(i=0;i<N;i++)
	{
		cin>>arr[i];
	}
	int sum=0;
	for(i=0;i<N;i++)
	{
		sum=sum+arr[i];
	}
	cout<<endl<<"Sum of entered elements is "<<sum;
	return 0;
}
```

QUESTION 1(b):

```
#include<iostream>
using namespace std;
int main()
{
	int N;
	cout<<"Enter the size of array whose maximum of entered elememnts is to be
found";
   cin>>N;
	int arr[N];
	int i;
	cout<<"Enter the elements of array";
	for(i=0;i<N;i++)
	{
		cin>>arr[i];
```

```
        }
        int max=0;
        for(i=0;i<N;i++)
        {
                if(arr[i]>max)
                {
                        max=arr[i];
                }
   }
        cout<<endl<<"Max of entered elements is "<<max;
        return 0;
}
```

QUESTION 1(c):

```
#include<iostream>
using namespace std;
int main()
{
        int N,i,count=0;
        cout<<"Enter the size of array";
        cin>>N;
        int arr[N];
        cout<<"Enter elements in array";
        for(i=0;i<N;i++)
        {
           cin>>arr[i];
        }
        cout<<"Enter the element you want to search";
        int wanted;
        cin>>wanted;
        for(i=0;i<N;i++)
        {
                if(wanted==arr[i])
                {
                        count++;
                        cout<<"Found at"<<i<"location";
                }
                }
                if(count==0)
                {
                        cout<<"Element not found";
                }
```

```
    return 0;
}
```

QUESTION 2:

```
#include<iostream>
using namespace std;
int main()
{
int r1,c1,r2,c2;
    cin>>r1;
    cin>>c1;
int arr1[r1][c1];
   for(int i=0; i<r1; i++)
    {
   for(int j=0; j<c1; j++)
      {
       cin>>arr1[i][j];
      }
}
   cin>>r2;
   cin>>c2;
   int arr2[r2][c2];
   for(int i=0; i<r2; i++)
   {
    for(int j=0; j<c2; j++)
    {
    cin>>arr2[i][j];
    }
}
int sumarr[r1][c1]= {0};
     for(int i=0; i<r1; i++) //adding two matrices
       {
        for(int j=0; j<c1; j++)
         {
           sumarr[i][j]=arr1[i][j]+arr2[i][j];
         }
       }
       cout<<endl;
     for(int i=0; i<r1; i++)
       {
         for(int j=0; j<c1; j++)
```

```
          {
            cout<<sumarr[i][j]<<" ";
          }
       cout<<endl;
       }
int subarr[r1][c1]= {0};
 for(int i=0; i<r1; i++) //subtracting two matrices
  {
    for(int j=0; j<c1; j++)
     {
      subarr[i][j]=arr1[i][j]-arr2[i][j];
     }
   }
    cout<<endl;
     for(int i=0; i<r1; i++)
      {
        for(int j=0; j<c1; j++)
          {
           cout<<subarr[i][j]<<" ";
          }
         cout<<endl;
      }
    cout<<endl;
    return 0;
}
```

QUESTION 3:

```
#include<iostream>
using namespace std;
int main()
4{
int r=3; int c=3;
int mat1[r][c],mat2[r][c];
  for(int i=0 ;i<r;i++)
  {
   for(int j=0;j<c;j++)
    {
     cin>>mat1[i][j];
    }
  }
```

```
   for(int i=0;i<r;i++)
    {
      for(int j=0;j<c;j++)
      {
       cin>>mat2[i][j];
      }
    }
int mat3[r][c]= {0};
  for(int i=0;i<r;i++)
   {
     for (int j=0;j<c;j++)
      {
       for(int k=0;k<r;k++)
       {
        mat3[i][j]=mat1[i][k]*mat2[k][j]+mat3[i][j];
       }
      }
   }
     for(int i=0;i<r;i++)
     {
        for(int j =0;j<c;j++)
         {
         cout<<mat3[i][j]<<" ";
        }
        cout<<endl;
     }
     return 0;
}
```

QUESTION 4:

```
#include<iostream>
using namespace std;
void linearsearch(int arr[],int n,int wanted)
{
   int count=0;
   for(int i=0; i<n; i++)
   {
     if(arr[i]==wanted)
      {
      cout<<i<<" "; count++;
      }
   }
```

```
    if(count==0)
    {
     cout<<"Element not found";
    }
    return;
}
int main()
{
   int n,wanted;
   cin>>n;
   int arr[n];
    for(int i=0; i<n; i++)
    {
      cin>>arr[i];
    }
   cin>>wanted;
   linearsearch(arr,n,wanted);
 return 0;
}
```

QUESTION 5:

```
#include<iostream>
using namespace std;
class rectangle
{
  private:
   int l1;
   int b1;
  public:
int area(int l1,int b1)
  {
  return l1*b1;
  }
   int perimeter(int l1,int b1)
   {
    return 2*(l1+b1);
   }
};
int main()
{
   rectangle object1;
    int l,b;
```

```
        cin>>l;
         cin>>b;
          cout<<endl<<object1.area(l,b);
           cout<<endl<<object1.perimeter(l,b);
   return 0;
}
```