Assignment-8

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Q1):-

```
Enter Size of Array:- 9
1 0 2 0 1 6 0 1 0
0 1 0 6 1 0 2 0 1
```

Q2):-

```
Enter Size of Array:- 5
1 3 2 4 2
Enter Position :- 2
Enter Value :- 32
1 3 32 4 2
```

Q3):-

```
Element of Original Array:-
1 2 3 4 4 5
Element of Copy Array:-
1 2 3 4 4 5
```

Q4):-

```
Element of Original Array:-
1 2 3 4 45 5
Element of Array After Deletion :-
1 2 3 45 5
```

Q5):-

```
Enter Size of Array:- 6
1 2 3 4 5 3
Enter Value :- 3
Value is present in Array at Index -> 2
```

Q6):-

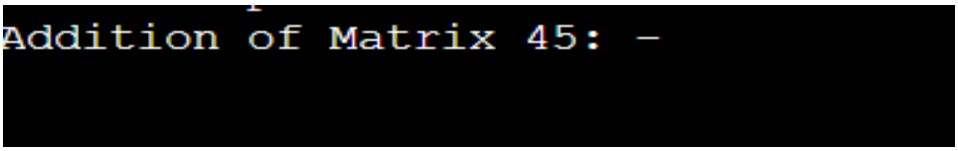
```
3 4 2 4 5 3
Total Sum of Array -> 21
Average of Array -> 3.000000
```

Q7):-

```
Enter Size of Array:- 6
2 -1 24 34 5 0
Largest Element of Array -> 34
Smallest Element of Array -> -1
```

Q8):-

```
Enter Number of size:- 3
1 2 3
4 5 6
8 9 7
Matrix Before Transpose: -
1 2 3
4 5 6
8 9 7
Matrix After Transpose: -
1 4 8
2 5 9
3 6 7
```




```
#include<stdio.h>
#include<string.h>
#include<math.h>
#include<stdlib.h>

int main()
{
  // Ques 1
   int n;
   printf("Enter Size of Array:- ");
   scanf("%d",&n);
   int arr[n];
   for(int i=0;i<n;i++)
   {
      scanf("%d",&arr[i]);
   }
   for(int i=0;i<n/2;i++)
   {
      int t=arr[i];
      arr[i]=arr[n-i-1];
      arr[n-i-1]=t;
   }
   for(int i=0;i<n;i++)
```

```
{
    printf("%d ",arr[i]);
}
```

```
// Ques 2
int n;
printf("Enter Size of Array:- ");
scanf("%d",&n);
int arr[n];
for(int i=0;i<n;i++)
{
    scanf("%d",&arr[i]);
}
int pos,val;
printf("Enter Position :- ");
scanf("%d",&pos);
if(pos<0 ||pos>=n)
{
    printf("Invalid Index....!");
    return 0;
}
printf("Enter Value :- ");
scanf("%d",&val);
arr[pos]=val;
for(int i=0;i<n;i++)
{
```

```
    printf("%d ",arr[i]);
  }
```

```
// Ques 3
int n;
  printf("Enter Size of Array:- ");
  scanf("%d",&n);
  int arr[n],copy[n];
  for(int i=0;i<n;i++)
  {
    scanf("%d",&arr[i]);
  }
  for(int i=0;i<n;i++)
  {
    copy[i]=arr[i];
  }
  printf("Element of Original Array:- \n");
  for(int i=0;i<n;i++)
  {
    printf("%d ",arr[i]);
  }
  printf("\nElement of Copy Array:- \n");
  for(int i=0;i<n;i++)
  {
```

```
    printf("%d ",copy[i]);
  }
```

```
// Ques 4
 int n;
  printf("Enter Size of Array:- ");
  scanf("%d",&n);
  int arr[n],copy[n];
  for(int i=0;i<n;i++)
  {
    scanf("%d",&arr[i]);
  }
  int pos;
  printf("Enter Position :- ");
  scanf("%d",&pos);
  if(pos<0 ||pos>=n)
  {
    printf("Invalid Index....!");
    return 0;
  }
  printf("Element of Original Array:- \n");
  for(int i=0;i<n;i++)
  {
```

```
    printf("%d ",arr[i]);
}
for(int i=pos;i<n;i++)
{
    arr[i]=arr[i+1];
}
n=n-1;
printf("\nElement of Array After Deletion :- \n");
for(int i=0;i<n;i++)
{
    printf("%d ",arr[i]);
}

// Ques 5
int n;
printf("Enter Size of Array:- ");
scanf("%d",&n);
int arr[n],copy[n];
for(int i=0;i<n;i++)
{
    scanf("%d",&arr[i]);
}
int val;
printf("Enter Value :- ");
scanf("%d",&val);
for(int i=0;i<n;i++)
{
    if(arr[i]==val)
    {
```

```
            printf("Value is present in Array at Index -> %d ",i);
            return 0;
        }
    }
    printf("Value is Not present in Array %d:- ",-1);
    return 0;
```

```
// Ques 6
    int n;
    printf("Enter Size of Array:- ");
    scanf("%d",&n);
    int arr[n],copy[n];
    for(int i=0;i<n;i++)
    {
        scanf("%d",&arr[i]);
    }
    int sum=0;
    float avg=0;
    for(int i=0;i<n;i++)
    {
        sum+=arr[i];
    }
    avg=(sum)/n;
    printf("Total Sum of Array -> %d \n",sum);
    printf("Average of Array -> %f \n",avg);
```

```
    return 0;

    // Ques 7
    int n;
    printf("Enter Size of Array:- ");
    scanf("%d",&n);
    int arr[n],copy[n];
    for(int i=0;i<n;i++)
    {
       scanf("%d",&arr[i]);
    }
    int min=100000;
    int max=-100000;
    for(int i=0;i<n;i++)
    {
       if(min>arr[i])min=arr[i];
       if(max<arr[i])max=arr[i];
    }

    printf("Largest Element of Array -> %d \n",max);
    printf("Smallest Element of Array -> %d \n",min);
    return 0;

// Ques 8
    int n;
    printf("Enter Number of size:- ");
    scanf("%d",&n);
    int mat[n][n];
    for(int j=0;j<n;j++)
```

```
{
   for(int i=0;i<n;i++)
   {
      scanf("%d",&mat[j][i]);
   }
}
printf("Matrix Before Transpose: - \n");
int res=0;
for(int j=0;j<n;j++)
{
   for(int i=0;i<n;i++)
   {
      printf("%d ",mat[j][i]);
      res+=mat[j][i];
   }
   printf("\n");
}
for(int i=0;i<n;i++)
{
   int k=i;
   int j=i;
   while(k<n && j<n)
   {
      int t=mat[k][i];
      mat[k][i]=mat[i][j];
      mat[i][j]=t;
      k++;
      j++;
   }
```

```
    }
    printf("Matrix After Transpose: - \n");
    for(int j=0;j<n;j++)
    {
        for(int i=0;i<n;i++)
        {
            printf("%d",mat[j][i]);
        }
    }
    printf("Addition of Matrix %d \n",res);
    return 0;
}
```