1.LINEAR ARRAY

```
#include<stdio.h>
void main()
{
   int k=6,i,a[]={1,2,3,4,5,6};
   int n =sizeof a/sizeof a[i];
   for(i=0;i<n;i++)
   {
      if(a[i]==k)
      {
         printf("%d is present",k);
      }
   }
}
```

2.BINARY ARRAY

```
#include<stdio.h>
void main()
{
   int a[]={1,2,3,4,5,6};
   int i,k,l,mid,low,high,x;
   scanf("%d%d%d",&a,&low,&high);
```

```
    l=sizeof a/sizeof a[0];
    mid=low+high/2;
    if(a[mid]==x)
    {
       printf("%d\n",mid);
    }
    if(a[mid]<x)
    {
       low=mid+1;
       printf("present at %d\n",low);
    }
    else
    {
       printf("present at %d\n",high);
    }
}
```

3.FACTORIAL

```
#include<stdio.h>
int fact(int n);
int main()
```

```
{
   int n;
   printf("enter the value of n:");
   scanf("%d",&n);
   printf("%d=%d",n,fact(n));
   return 0;
}
int fact(int n)
{
   if(n>=1)
   return n*fact(n-1);
   else
   return 1;
}
```

4.MINIMUN AND MAXIMUM ELEMENT IN AN ARRAY:

```
#include<stdio.h>
int main()
{
   int a[]={1,2,3,4,5,6,7},i,min,max;
   min=a[0];
```

```
    max=a[0];
    int n=sizeof a/sizeof a[0];
    for(i=0;i<n;i++)
    {
       if(a[i]<min)
       {
       min=a[i];
    }
    if(a[i]>max)
    {
    max=a[i];
    }
    }
    printf("minimum element is %d\n",min);
    printf("maximun element is %d",max);
}
```

5.FIBONACCAI:

```
#include<stdio.h>
int fib(int n)
{
```

```
    int a=0,b=1,c,i;
    if(n==0)
    return a;
    for(i=2;i<=n;i++)
    {
        c=a+b;
        a=b;
        b=c;
    }
    return b;
}
int main()
{
    int n=9,i,sum=0;
    for(i=0;i<n;i++)
    {
    printf("%d",fib(i));
    }
    sum=sum+fib(i);
    {
        printf("sum",sum);
    }
```

```
    return 0;
}
```

6.DUPLICATE ELEMENTS IN AN ARRAY:

```
#include <stdio.h>
int main()
{
    int i,j,temp=0,c[10],d=0;
    int a[]={1,2,3,4,5,5,4,3,6,7};
    int n=sizeof a/sizeof a[i];
    for(i=0;i<n;i++)
    {
        for(j=i+1;j<n;j++)
        {
            if(a[i]==a[j])
            {
                printf("%d",a[j]);
            }
        }
    }
}
```

7.a.

```
#include<stdio.h>
int main(){
    int i;
    int a[]={1,2,3,4,5};
    int n=sizeof a/sizeof a[0];
    for (i=0;i<n;i++){
        printf("%d",a[i]);
    }
}
```

b.

```
#include<stdio.h>
int main(){
    int a[]={1,2,3,4,5,6};
    int i;
    int k=4;
    int l=sizeof a/sizeof a[0];
    for(i=0;i<l;i++){
        if(a[i]==k)
            printf("present\n");
        else
        printf("not present\n");
```

```
    }
}
```

c.

```
#include<stdio.h>
int main(){
    int a[]={1,2,3,4,5};
    int n,i,pos,num;
    printf("enetr the num and pos:");
    scanf("%d%d",&num,&pos);
    n=sizeof a/sizeof a[0];
    for(i=n-1;i>=pos-1;i--){
        a[i+1]=a[i];
    }
    a[pos-1]=num;
    n++;
    for(i=0;i<n;i++)
    {
        printf("%d",a[i]);
    }
```

```
}
```

d.

```
#include<stdio.h>
int main(){
    int a[]={1,2,3,4,5,6,7};
    int n=sizeof a/sizeof a[0];
    int pos,i;
    scanf("%d",&pos);
    for(i=pos-1;i<n-1;i++){
        a[i]=a[i+1];
        n--;
    }
    for (i=0;i<n;i++){
        printf("%d",a[i]);
    }
}
```

e.

```
#include<stdio.h>
int main(){
    int a[]={1,2,3,4,5};
    a[0]=9;
    int i;
```

```
    int n=sizeof a/sizeof a[0];
    for(i=0;i<n;i++){
        printf("%d",a[i]);
    }
}
```