Day 1:24-07-2024

1.Travese

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

input:a={1,2,3,4,5,6}
output:123456

2.Search

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

input:a[]={1,2,3,4,5,6}
output:
not present
not present
present
not present
not present
not present

3.Delete

```
#include<stdio.h>
void main()
{
   int a[6]={1,2,3,4,5,6},n=5,i,pos=2,ele;
   if(pos>=n)
   {
      printf("deletion is not possible");
   }
   else
   {
      for(i=pos-1;i<=n-1;i++)
      {
         a[i]=a[i+1];
      }
   }
   for(i=0;i<=n-1;i++)
   {
      printf("%d",a[i]);
   }
}
```

input:a={1,2,3,4,5,6}
output:1,3,4,5

4.Update

```
#include<stdio.h>
void main()
{
   int a[6]={1,2,3,4,5,6},n=5,temp,new=8,k=3,i;
   for(i=0;i<=n;i++)
   {
      if(i==k)
      {
         temp=a[i];
         a[i]=new;
      }
   }
   for(i=0;i<=n;i++)
   {
      printf("%d",a[i]);
   }
}
```

input:a={1,2,3,4,5,6}
output=128456

5.Recurrsion

```
#include<stdio.h>
int fact(int n);
int main()
{
   int n=5;
   printf("%d",fact(n));
   return 0;
}
int fact(int n)
{
   if(n==0)
      return 1;
   else
      return n*fact(n-1);
}
```

input:5
output:120

6.Duplicates in an array

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

input:{1,3,3,4,5,6}
output:3

7.max and min an array

```
#include<stdio.h>
void main()
{
   int a[6]={1,2,3,4,5,6},n=5,i,max,min;
   min=max=a[0];
   for(i=0;i<=n;i++)
   {
      if(a[i]>max)
      {
         max=a[i];
      }
   }
   printf("max element:%d\n",max);
   for(i=0;i<=n;i++)
   {
      if(a[i]<min)
      {
         min=a[i];
      }
   }
   printf("min element:%d",min);
}
```

input:a={1,2,3,4,5,6}
output:max element:6
min element:1

8.Fibonacci series

```
#include<stdio.h>
int fibonacci(int n);
int main()
{
   int n=3,i;
   printf("%d",fibonacci(n));
}
int fibonacci(int n)
{
   int n1=0,n2=1,n3=n1+n2,i;
   for(i=0;i<=n;i++)
   {
      n1=n2;
      n2=n3;
```

```
        n3=n1+n2;
    }
    return n3;
}
```
input:3
output:8

9.search by linear

```
#include<stdio.h>
void main()
{
    int a[6]={1,2,3,4,5,6},i,k=3,n=5;
    for(i=0;i<=n;i++)
    {
        if(a[i]==k)
        {
            printf("present\n");
        }
        else
        {
            printf("not present\n");
        }
    }
}
```
output:/tmp/1F6r9a1byc.o
not present
not present
present
not present
not present
not present

10.search by binary

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

```
        }
        else
        {
            printf("not present\n");
        }
    }
}
```

output:

present
not present
not present
not present