

/\*array traversal,insertion,deletion,searching,reversal\*/

```
#include<stdio.h>
```

```
void traversal(int a1[],int n);
```

```
void search(int a1[],int n);
```

```
void reversal(int a1[],int n);
```

```
void insertion(int a1[],int n);
```

```
void deletion(int copy[],int n);
```

```
int main()
```

```
{
```

```
    int n,i;
```

```
    printf("enter the value of n\n");
```

```
    scanf("%d",&n);
```

```
    int a[n],copy[n];
```

```
    printf("enter the values of array\n");
```

```
    for(i=0;i<n;i++)
```

```
    {
```

```
        scanf("%d",&a[i]);
```

```
    }
```

```
    printf("your entered array elements are\n");
```

```
    for(i=0;i<n;i++)
```

```
    {
```

```
        printf("%d\n",a[i]);
```

```
    }
```

```
    for(i=0;i<n;i++)
```

```
    {
```

```
        copy[i]=a[i];
```

```
    }
```

```
    traversal(a,n);
```

```
    search(a,n);
```

```
    reversal(a,n);
```

```
    insertion(a,n);
```

```

        deletion(copy,n);

        return 0;

    }

    void traversal(int a1[],int n)
    {
        int i;
        printf(" after traversal array elements are\n");
        for(i=0;i<n;i++)
        {
            printf("%d\n",a1[i]);
        }
    }

    void search(int a1[],int n)
    {
        int i,key,found,location;
        printf("enter your key(search)element\n");
        scanf("%d",&key);
        for(i=0;i<n;i++)
        {

            if(a1[i]==key)
            {
                found=1;
                location=i;
                break;
            }
            else
            {
                found=0;
            }
        }
    }

```

```

    }

    if(found==0)

        printf("SEARCH UNSUCCESSFUL:element not found\n");

    else

        printf("SEARCH SUCCESSFUL:%d is present at place %d\n",key,(location+1));
}

void reversal(int a1[],int n)
{
    int i;

    printf("after reversing array the array is\n");

    for(i=n-1;i>=0;i--)
    {
        printf("%d\n",a1[i]);
    }
}

void insertion(int a1[],int n)
{
    int i,key,location;

    printf("enter the location of new element to be inserted\n");

    scanf("%d",&location);

    printf("enter the value of new element to be inserted\n");

    scanf("%d",&key);

    n++;

    i=n-1;

    while(i>=location)
    {
        a1[i]=a1[i-1];

        i--;
    }

    a1[location]=key;

```

```

printf("after insertion array is\n");
for(i=0;i<n;i++)
{
printf("%d\n",a1[i]);
}
}

void deletion(int copy[],int n)
{
    int i,key,location,found;

    printf("enter the value of element to be deleted\n");
    scanf("%d",&key);
    for(i=0;i<n;i++)
    {

        if(copy[i]==key)
        {
            found=1;
            location=i;
            break;
        }
        else
        {
            found=0;
        }

    }

    if(found==0)
    printf("SEARCH UNSUCCESSFUL:element not found,deletion is not possible\n");
    else
    while(location<n)
    {

```

```

        copy[location]=copy[location+1];

        location++;

    }

    printf("after deletion the array is\n");

    for(i=0;i<n-1;i++)

    {

        printf("%d\n",copy[i]);

    }

}

```

The screenshot shows a Windows command prompt window titled "C:\Users\HP\OneDrive\Desktop\collage work 3rd sem\array operations nw.exe". The program prompts the user for the value of 'n' (5) and the values of the array (1, 2, 3, 4, 5). It then displays the entered array elements and traverses them. A search for the key '3' is successful, finding it at index 3. After reversing the array, it becomes 5, 4, 3, 2, 1. The user is then prompted to enter the location of a new element to be inserted (2) and its value (6). After insertion, the array is 1, 2, 6, 3, 4, 5. Finally, the user is prompted to enter the value of an element to be deleted (3). After deletion, the array is 1, 2, 4, 5.

```

C:\Users\HP\OneDrive\Desktop\collage work 3rd sem\array operations nw.exe
enter the value of n
5
enter the values of array
1
2
3
4
5
your entered array elements are
1
2
3
4
5
after traversal array elements are
1
2
3
4
5
enter your key(search)element
3
SEARCH SUCCESSFUL:3 is present at place 3
after reversing array the array is
5
4
3
2
1
enter the location of new element to be inserted
2
enter the value of new element to be inserted
6
after insertion array is
1
2
6
3
4
5
enter the value of element to be deleted
3
after deletion the array is
1
2
4
5
.....

```