

Aim:

Write a C program to illustrate **Indexing of a file**.

Take an array of integers and find whether the given integer is present or not using **file indexing** method and print the output as shown in the sample output.

Source Code:`fileIndexing.c`

```
#include<stdio.h>
#define MAX 25
struct indexfile
{
    int indexId;
    int KIndex;
};
int main()
{
    int numbers[MAX];
    struct indexfile index[MAX];
    int i,num,low,high,br=4;
    int noOfStudents;
    printf("How many numbers do you want to enter:");
    scanf("%d",&noOfStudents);
    printf("Enter %d numbers:",noOfStudents);
    for(i=0;i<noOfStudents;i++)
    {
        scanf("%d",&numbers[i]);
    }
    for(i=0;i<(noOfStudents / 5);i++)
    {
        index[i].indexId=numbers[br];
        index[i].KIndex=br;
        br=br+5;
    }
    printf("Enter a number to search:");
    scanf("%d",&num);
    for(i = 0; (i < noOfStudents / 5) && (index[i].indexId <= num); i++);
    if(i!=0)
    low=index[i-1].KIndex;
    else
    low=0;
    if(index[i].KIndex !=0&&index[i].KIndex<=noOfStudents)
    high=index[i].KIndex;
    else
    high=noOfStudents;
    for(i=low;i<=high;i++)
    {
        if(num==numbers[i])
        {
            printf("Number found at position:%d",i);
            return 0;
        }
    }
```

```
}  
printf("\nNumber not found.");  
return 0;  
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
How many numbers do you want to enter: 5
Enter 5 numbers: 1 5 6 9 12
Enter a number to search: 6
Number found at position:2

Test Case - 2
User Output
How many numbers do you want to enter: 7
Enter 7 numbers: 2 3 6 9 12 20 25
Enter a number to search: 20
Number found at position:5