S.No: 37	Exp. Name: ***Indexing of a file***	Date:2023-05-16

ID: 224G1A0540

2022-2026-CSE-A

Srinivasa Ramanujan Institute of Technology

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].indexId <= noofstudents) high = index[i].kInd
ex;
    else high = noofstudents;
    for(i = low; i <=high; i++) {
      if(num == numbers[i]) {
         printf("Number found at position:%d", i);
         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