S.No: 37	Exp. Name: ***Indexing of a file***	Date:2023-07-08

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