EX :19	TELEPHONE DIRECTORY USING RANDOM ACCESS FILE
DATE:	

AIM :

To insert, update, delete and append telephone details of an individual or a company into a telephone directory using random access file.

ALGORITHM :

Step 1: Create a random access file
Step 2: call the respective procedure to insert, update, delete or append based on user choice
Step 3: Access the random access file to make the necessary changes and save

PROGRAM

```
#include "stdio.h"
#include "string.h"
#include<stdlib.h>
#include<fcntl.h>

struct dir { char
name[20];
char number[10];
};

void insert(FILE *); void
update(FILE *); void
del(FILE *); void
display(FILE *);
void search(FILE *);

int record = 0; int
main(void) { int
choice = 0;
FILE *fp = fopen( "telephone.dat", "rb+" ); if (fp
== NULL ) perror ("Error opening file"); while
(choice != 6)
{ printf("\n1 insert\t 2 update\n"); printf("3
delete\t 4 display\n"); printf("5 search\t 6
Exit\n Enter choice:");
```

```
scanf("%d", &choice); switch(choice)
{ case 1: insert(fp); break;
case 2: update(fp); break;
case 3: del(fp); break; case
4: display(fp); break; case 5:
search(fp); break;
default: ;
}
}
        fclose(fp);
        return 0;
        }

        void insert(FILE *fp)
        {

        struct dir contact, blank; fseek( fp, -
        sizeof(struct dir), SEEK_END );
        fread(&blank, sizeof(struct dir), 1, fp);
        printf("Enter individual/company
        name: "); scanf("%s", contact.name);
        printf("Enter telephone number: ");
        scanf("%s", contact.number);
        fwrite(&contact, sizeof(struct dir), 1, fp);
        }

        void update(FILE *fp)
        {
        char name[20], number[10];
        int result; struct dir
        contact, blank;
        printf("Enter
        name:");
        scanf("%s", name);
        rewind(fp);
        while(!feof(fp))
        { result = fread(&contact, sizeof(struct dir), 1,
        fp); if(result != 0 && strcmp(name,
        contact.name) == 0)
        { printf("Enter
        number:");
        scanf("%s",
        number);
        strcpy(contact.number, number);
        fseek(fp, -sizeof(struct dir),
```

```
SEEK_CUR); fwrite(&contact,
sizeof(struct dir), 1, fp);
printf("Updated successfully\n");
return;
}
}
printf("Record not found\n");
}

void del(FILE *fp)
{
char name[20], number[10];
int result, record=0;
struct dir contact, blank = {"", ""}; printf("Enter name:");
scanf("%s", name);
rewind(fp); while(!feof(fp))
{
result = fread(&contact, sizeof(struct dir), 1, fp);
if(result != 0 && strcmp(name, contact.name) == 0)
{
fseek(fp, record*sizeof(struct dir), SEEK_SET);
fwrite(&blank, sizeof(struct dir), 1, fp);


printf("%d Deleted successfully\n", record-1);
return;
}
record++;
}
printf("not found in %d records\n", record);

}

void display(FILE *fp)
{
struct dir contact;
int result;
rewind(fp);
printf("\n\n    Telephone directory\n");
printf("%20s %10s\n", "Name", "Number");
printf("*********************************\
n"); while(!feof(fp))
{ result = fread(&contact, sizeof(struct dir),
1, fp); if(result != 0 &&
strlen(contact.name) > 0)
```

```
printf("%20s %10s\n",contact.name, contact.number);
}
printf("*********************************\n");

}

void search(FILE *fp)
{
struct dir contact; int
result; char
name[20];
rewind(fp);
printf("\nEnter
name:");
scanf("%s", name);
while(!feof(fp))
{
result = fread(&contact, sizeof(struct dir), 1, fp);
if(result != 0 && strcmp(contact.name, name) == 0)
{
printf("\n%20s %10s\n",contact.name, contact.number);
return;
}
}
printf("Record not found\n");

}
```

OUTPUT:

```
1 insert          2 update
 3 delete          4 display
5 search          6 Exit
Enter choice: 4
 Telephone directory
    Name     Number
```

```
*********************************
              bb      11111
*********************************

1 insert         2 update
3 delete         4 display
5 search         6 Exit
 Enter choice: 5

Enter name: bb

              bb      11111

1 insert         2 update
3 delete         4 display
5 search         6 Exit
 Enter choice: 1
Enter individual/company name:  aa
Enter telephone number:  222222

1 insert         2 update
3 delete         4 display
5 search         6 Exit
 Enter choice: 2
Enter name: aa
Enter number: 333333
Updated successfully

1 insert         2 update
3 delete         4 display
5 search         6 Exit
 Enter choice:

   Telephone directory
              Name     Number
*********************************
              bb              11111
aa     333333
*********************************
1 insert         2 update
3 delete         4 display
```

```
                5 search        6 Exit
Enter choice: 3

Enter name: aa
1 Deleted successfully

1 insert        2 update
3 delete        4 display
5 search        6 Exit
 Enter choice: 4


   Telephone directory
          Name     Number
*******************************
            bb     11111
*******************************

1 insert        2 update
3 delete        4 display
5 search        6 Exit
Enter choice: 6
```

RESULT:

Thus the C program To insert, update, delete and append telephone details of an individual or a company into a telephone directory using random access file was successfully written and executed.