Ex. No.: 12

Date: 16/4/25

File Organization Technique- Single and Two level directory

AIM:

To implement File Organization Structures in C are a.
Single Level Directory
b. Two-Level Directory
c. Hierarchical Directory Structure
d. Directed Acyclic Graph Structure

a. Single Level Directory

ALGORITHM

1. Start
2. Declare the number, names and size of the directories and file names.
3. Get the values for the declared variables.
4. Display the files that are available in the directories.
5. Stop.

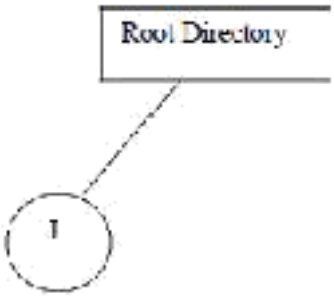
PROGRAM:

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

struct File {
   char name[20];
};

int main() {
   int n, i;
   struct File files[50];

   printf("Enter the Number of files: ");
   scanf("%d", &n);

   // Flush newline character left in buffer
   getchar();
```

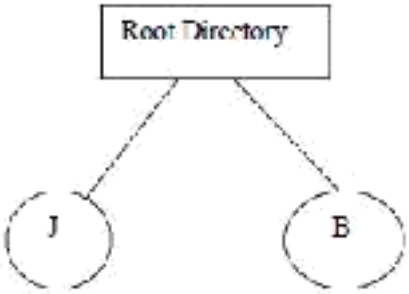
```
    for (i = 0; i < n; i++) {
        printf("Enter the file%d: ", i + 1);
        fgets(files[i].name, sizeof(files[i].name), stdin);
        // Remove newline character
        files[i].name[strcspn(files[i].name, "\n")] = '\0';
    }

    printf("\n--- Single Level Directory Structure ---\n");
    printf("Root Directory\n");

    for (i = 0; i < n; i++) {
        printf("  |\n  --> %s\n", files[i].name);
    }

    return 0;
}
```

OUTPUT:

Enter the Number of files
2
Enter the file1 J



Enter the file2 B



b. Two-level directory Structure

ALGORITHM:

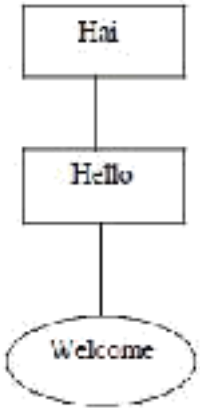
1. Start
2. Declare the number, names and size of the directories and subdirectories and file names.
3. Get the values for the declared variables.
4. Display the files that are available in the directories and subdirectories.
5. Stop.

PROGRAM:

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

int main() {
   char root[20], subdir[20], file[20];

   printf("Enter the name of dir/file(under null): ");
   scanf("%s", root);

   printf("How many users(for %s): ", root);
   int n;
   scanf("%d", &n);

   for (int i = 0; i < n; i++) {
      printf("Enter name of dir/file(under %s):", root);
      scanf("%s", subdir);

      printf("How many files(for %s):", subdir);
      int m;
      scanf("%d", &m);

      for (int j = 0; j < m; j++) {
         printf("Enter name of dir/file(under %s):", subdir);
         scanf("%s", file);
      }

      // Simple display like the image
      printf("\n%s\n", root);
      printf(" |\n%s\n", subdir);
      printf(" |\n%s\n", file);
   }

   return 0;
}
```

Sample Output:

Enter the name of dir/file(under null): Hai
How many users(for Hai):1
Enter name of dir/file(under Hai):Hello
How many files(for Hello):1
Enter name of dir/file(under Hello):welcome



Result:

Thus the algorithm is executed successfully.