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**Ex. No.: 12**

**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

1. **Single Level Directory**

**PROGRAM:**

#include<stdio.h>

#include<stdlib.h>

#include<graphics.h>

void main()

{

int gd=DETECT,gm,count,i,j,mid,cir\_x;

char fname[10][20];

initgraph(&gd,&gm,"c:\\tc\\bgi");

cleardevice();

setbkcolor(Green);

puts("Enter the number of files");

scanf("%d",&count);

for(i=0;i<count;i++)

**{**

cleardevice();

setbkcolor(GREEN);

printf("Enter the file %d name",i+1);

scanf("%s",fname[i]);

setfillstyle(1,MAGENTA);

mid=640/count; cir\_x=mid/3;

bar3d(270,100,370,150,0,0);

settextstyle(2,0,4);

settextjustify(1,1);

outtextxy(320,125,"Root Directory");

setcolor(BLUE);

for(j=0;j<=i;j++,cir\_x+=mid)

{

line(320,150,cir\_x,250);

fillellipse(cir\_x,250,30,30);

outtextxy(cir\_x,250,fname[j]);

}

}

}

****

1. **Two-level directory Structure**

**PROGRAM:**

#include<stdio.h>

#include<graphics.h>

struct tree\_element

{

char name[20];

int x,y,ftype,lx,rx,nc,level; struct tree\_element \*link[5]; }; typedef struct tree\_element node;

void main() {

int gd=DETECT,gm; node \*root;

root = NULL; clrscr();

create(&root,0,"null",0,630,320);

clrscr();

initgraph(&gd,&gm,"c:\\tc\\bgi");

display(root);

getch();

closegraph();

}

create(node \*\*root,int lev,char \*dname,int lx,int rx,int x)

{

int i,gap;

if(\*root==NULL)

{

(\*root)=(node\*)malloc(sizeof(node));

printf("enter name of dir/file(under %s):",dname);fflush(stdin);

gets((\*root)->name);

if(lev==0||lev==1)

(\*root)->ftype=1;

else

(\*root)->ftype=2;

**(\***root)->level=lev;

(\*root)->y=50+lev\*50;

(\*root)->x=x;

(\*root)->lx=lx;

(\*root)->rx=rx;

for(i=0;i<5;i++)

(\*root)->link[i]=NULL;

if((\*root)->ftype==1)

{

if(lev==0||lev==1)

{

if((\*root)->level==0)

printf("How many users");

else

printf("How many files");

printf("(for%s):",(\*root)->name);

scanf("%d",&(\*root)->nc);

}

else(\*root)->nc=0;

if((\*root)->nc==0)

gap=rx-lx;

else

gap=(rx-lx)/(\*root)->nc;

for(i=0;i<(\*root)->nc;i++)

create(&((\*root)->link[i]),lev+1,(\*root)->name,lx+gap\*i,lx+gap\*i+gap,lx+gap\*i+gap/2);

}

else

(\*root)->nc=0;

}

}

display(node \*root)

{

int i;

settextstyle(2,0,4);

settextjustify(1,1);

setfillstyle(1,BLUE);

setcolor(14);

if(root!=NULL)

{

for(i=0;i<root->nc;i++)

{

line(root->x,root->y,root->link[i]->x,root->link[i]->y);

}

if(root->ftype==1) bar3d(root->x-20,root->y-10,root->x+20,root->y+10,0,0); else

fillellipse(root->x,root->y,20,20); outtextxy(root->x,root->y,root->name); for(i=0;i<root->nc;i++)

{

display(root->link[i]);

}

}

**}**

**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

****