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Ex. No.: 12

File Organization Technique- Single and Two level directory

AIM:

To implement File Organization Structures in C are

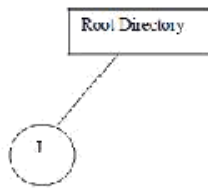
- a. Single Level Directory
- b. Two-Level Directory
- c. Hierarchical Directory Structure
- d. Directed Acyclic Graph Structure

a. Single Level Directory

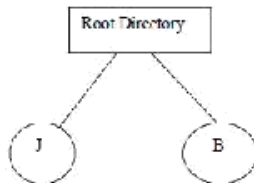
PROGRAM:

```
#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]);
}
}
}
```

OUTPUT:
Enter the Number of files
2
Enter the file1 J



Enter the file2 B



b. 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

