

DIRECTORY

single and Two level

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#include<stdio.h>
#include<stdlib.h>
#include<string.h>
typedef struct {
    char name[10];
    struct single *next;
}single;
typedef struct{
    char name[10];
    struct single *next;
    struct dir *down;
}dir;
void single_c(single *head,char filename[]){
    single *temp;
    temp=head;
    while(temp->next!=NULL){
        temp=temp->next;
    }
    single *new = (single *)malloc(sizeof(single));
    strcpy(new->name,filename);
    new->next=NULL;
    temp->next=new;
}
void single_d(single *head,char filename[]){
    single *temp,*ptr;
    temp=head->next;
    ptr=head;
    while(temp!=NULL && strcmp(temp->name,filename)!=0){
        ptr=temp;
        temp=temp->next;
    }
    if(temp!=NULL && strcmp(temp->name ,filename)==0){
        ptr->next=temp->next;
        printf("File Deleted\n");
    }
    else if(temp==NULL)
    {
        printf("No such File\n");
    }
}
void single_dis(single *head){
    single *ptr = head->next;
    printf("-----\n");
    while(ptr!=NULL){
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        printf("|t%s\t",ptr->name);
        ptr=ptr->next;
    }
    printf("\n");
    printf("-----\n");
}

void single_s(single *head,char filename[]){
    single *temp,*ptr;
    temp=head->next;
    ptr=head;
    while(temp!=NULL && strcmp(temp->name,filename)!=0){
        ptr=temp;
        temp=temp->next;
    }
    if(temp!=NULL && strcmp(temp->name , filename)==0){
        printf("File Present\n");
    }
    else if(temp==NULL)
    {
        printf("No such File\n");
    }
}

int single_level(){
    int choice,a;
    char b[10],filename[10];
    single *new =(single *)malloc(sizeof(single));
    strcpy(new->name,b);
    new->next = NULL;
    single *head;
    head = new;
    while(1){
        printf("1. Create File\n2. Delete File\n3. Search File\n4. Display Files\n5. Exit\nEnter your
choice: ");
        scanf("%d",&choice);
        switch (choice){
            case 1:printf("Enter the file name: ");
                scanf("%s",filename);
                single_c(head,filename);
                break;
            case 2:printf("Enter the file name: ");
                scanf("%s",filename);
                single_d(head,filename);
                break;
            case 3:printf("Enter the file name: ");
                scanf("%s",filename);
                single_s(head,filename);
                break;
            case 4:single_dis(head);
                break;
            case 5:return 0;

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    }
}
return 0;
}
dir * two_dir(dir *twohead,char filename[]){
    dir *new=(dir*)malloc(sizeof(dir));
    new->down=NULL;
    new->next=NULL;
    dir *ptr=twohead;
    strcpy(new->name,filename);
    if(twohead==NULL){
        //printf("First directory\n");
        twohead=new;
    }
    else{
        //printf("second time\n");
        while(ptr->next!=NULL)
            ptr=ptr->next;
        ptr->next=new;
    }
    return twohead;
}
dir * two_c(dir *head,char direc[],char filename[]){
    dir *temp,*ptr;
    temp=head;
    single *ptr1,ptr2;
    single *new=(single *)malloc(sizeof(single));
    strcpy(new->name,filename);
    new->next=NULL;
    while(temp!=NULL && strcmp(temp->name,direc)!=0){
        ptr=temp;
        temp=temp->next;
    }
    if(temp!=NULL && strcmp(temp->name , direc)==0){
        printf("Directory Present\n");
        ptr1=temp->down;
        if(ptr1==NULL)
            temp->down=new;
        else{
            while(ptr1->next!=NULL){
                ptr1=ptr1->next;
            }
            ptr1->next=new;
        }
    }
    else if(temp==NULL)
    {
        printf("No such Directory\n");
    }
    return head;
}

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}
dir * two_d(dir *head,char direc[],char filename[]){
    dir *ptr=head;
    single *ptr1,*ptr2=NULL;
    while(ptr!=NULL && strcmp(ptr->name,direc)!=0)
        ptr=ptr->next;
    if(ptr==NULL)
        printf("No Such Directory\n");
    else{
        ptr1=ptr->down;
        while(ptr1!=NULL && strcmp(ptr1->name,filename)!=0){
            ptr2=ptr1;
            ptr1=ptr1->next;
        }
        if(ptr1==NULL)
            printf("No such File\n");
        else if(ptr2==NULL){
            ptr->down=NULL;
        }
        else{
            printf("File Deleted\n");
            ptr2->next=ptr1->next;
        }
    }
    return head;
}

void two_s(dir *head,char direc[],char filename[]){
    dir *ptr=head;
    single *ptr1,*ptr2=NULL;
    while(ptr!=NULL && strcmp(ptr->name,direc)!=0)
        ptr=ptr->next;
    if(ptr==NULL)
        printf("No Such Directory\n");
    else{
        ptr1=ptr->down;
        while(ptr1!=NULL && strcmp(ptr1->name,filename)!=0){
            ptr2=ptr1;
            ptr1=ptr1->next;
        }
        if(ptr1==NULL)
            printf("No such File\n");
        else{
            printf("File Present\n");
        }
    }
}

void two_dis(dir *head){
    single *ptr;
    dir *main=head;
    if(main==NULL)
        printf("Empty\n");
}

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while(main!=NULL){
    printf("%s\t",main->name);
    ptr=main->down;
    while(ptr!=NULL){
        printf("%s ",ptr->name);
        ptr=ptr->next;
    }
    printf("\n");
    main=main->next;
}

}

int two_level(){
    int choice,a;
    char direc[10],filename[10];
    dir *twohead = NULL;
    while(1){
        printf("1. Create Directory\n2. Create File\n3. Delete File\n4. Search File\n5. Display Files\n6.
Exit\nEnter your choice: ");
        scanf("%d",&choice);
        switch (choice){
            case 1:printf("Enter the Directory name: ");
                scanf("%s",filename);
                twohead = two_dir(twohead,filename);
                break;
            case 2:printf("Enter the Directory name: ");
                scanf("%s",direc);
                printf("Enter the filename: ");
                scanf("%s",filename);
                twohead = two_c(twohead,direc,filename);
                break;
            case 3:printf("Enter the Directory name: ");
                scanf("%s",direc);
                printf("Enter the file name: ");
                scanf("%s",filename);
                twohead = two_d(twohead,direc,filename);
                break;
            case 4:printf("Enter the Directory name: ");
                scanf("%s",direc);
                printf("Enter the file name: ");
                scanf("%s",filename);
                two_s(twohead,direc,filename);
                break;
            case 5:two_dis(twohead);
                break;
            case 6:return 0;
        }
    }
    return 0;
}

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int main(){
    int choice,chumma;
    printf("1 Single level Directory\n2 Two-level Directory\n3 Hierarchial Directory\n4 Exit\nEnter
your coice: ");
    scanf("%d",&choice);
    switch (choice){
        case 1:chumma = single_level();
            break;
        case 2:chumma = two_level();
            break;
        case 4:return 0;
    }
    return 0;
}
```