#include <stdio.h>

#include <stdlib.h>

#include<string.h>

#define MAX 30

typedef struct mobile{

char Model[MAX],Brand[MAX];

int Memory;

float Price;

struct mobile \*link;

}mobile;

struct mobile \*head=NULL;

void create()

{

mobile \*ptr,\*temp;

ptr= (mobile \*)malloc(sizeof(mobile));

printf("Enter the mobile name:");

scanf(" %s",&ptr->Model);

fflush(stdin);

printf("Enter the brand name:");

scanf("%s",&ptr->Brand);

fflush(stdin);

printf("Enter the memory capacity:");

scanf("%d",&ptr->Memory);

fflush(stdin);

printf("Enter the mobile price:");

scanf("%f",&ptr->Price);

ptr->link=NULL;

if(head==NULL)

{

// head=NULL;

head=ptr;

// ptr->link=NULL;

}

else{

temp=head;

while(temp->link!=NULL)

{

temp = temp->link;

}

temp->link = ptr;

}

// temp=ptr;

// free(ptr);

}

void display()

{

mobile \*ptr;

ptr = head;

if(ptr==NULL)

{

printf("Empty list");

}

else{

while(ptr!=NULL)

{

printf("%s\t%s\t%d\t%f",ptr->Model,ptr->Brand,ptr->Memory,ptr->Price);

ptr=ptr->link;

}

}

}

void sort\_brand()

{

int i,j,count,swapflag;

count=size();

mobile \*otemp,\*itemp1,\*itemp2,temp;

for(i=0;i<=count;i+=1)

{

otemp=head;

swapflag=0;

for(j=0;j<count-i-1;j+=1)

{

itemp1=otemp;

itemp2=otemp->link;

if(strcmp(itemp1->Brand,itemp2->Brand)>0)

{

strcpy(temp.Brand,itemp1->Brand);

strcpy(temp.Model,itemp1->Model);

temp.Memory=itemp1->Memory;

temp.Price=itemp1->Price;

strcpy(itemp1->Brand,itemp2->Brand);

strcpy(itemp1->Model,itemp2->Model);

itemp1->Memory=itemp2->Memory;

itemp1->Price=itemp2->Price;

strcpy(itemp2->Brand,temp.Brand);

strcpy(itemp2->Model,temp.Model);

itemp2->Memory=temp.Memory;

itemp2->Price=temp.Price;

}

otemp=otemp->link;

}

}

}

int size()

{

mobile \*temp;

int size=0;

temp=head;

while(temp!=NULL)

{

temp=temp->link;

size+=1;

}

return size;

}

void sort\_price()

{

int i,j,count;

count=size();

mobile \*otemp,\*itemp1,\*itemp2,temp;

for(i=0;i<=count;i+=1)

{

otemp=head;

for(j=0;j<count-i-1;j+=1)

{

itemp1=otemp;

itemp2=otemp->link;

if(itemp1->Price > itemp2->Price)

{

strcpy(temp.Brand,itemp1->Brand);

strcpy(temp.Model,itemp1->Model);

temp.Memory=itemp1->Memory;

temp.Price=itemp1->Price;

strcpy(itemp1->Brand,itemp2->Brand);

strcpy(itemp1->Model,itemp2->Model);

itemp1->Memory=itemp2->Memory;

itemp1->Price=itemp2->Price;

strcpy(itemp2->Brand,temp.Brand);

strcpy(itemp2->Model,temp.Model);

itemp2->Memory=temp.Memory;

itemp2->Price=temp.Price;

}

otemp=otemp->link;

}

}

}

int main()

{

int choice;

while(1)

{

printf("\n 1.Add mobile\n 2.Display\n 3.Sort by brand\n4. Sort by price\n5. Exit\nEnter your choice:");

scanf("%d",&choice);

switch (choice)

{

case 1:

create();

break;

case 2:

display();

break;

case 3:

sort\_brand();

break;

case 4:

sort\_price();

break;

// case 5:

// Exit(0);

default:

printf("\nInvalid Input !!\n Try Again !!");

}

}

return 0;

}

