//Name: Mehmet Fatih Çelik

//ID: 2385268

#include <stdio.h>

#include <stdlib.h>

struct Node

{

int year;

int prices;

struct Node \*next;

};

struct ListRecord

{

struct Node \*head;

struct Node \*tail;

int size;

};

void PrintProducts(struct ListRecord \*);

int findCheapest(struct ListRecord \*);

int main(){

int choice, years,i, cheapest;

struct ListRecord \*product;

do{

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("1) Create yearly price for the product\n");

printf("2) Display yearly price for the product\n");

printf("3) Display the cheapest product info\n");

printf("4) Exit\n");

printf("What would you like to do? ");

scanf("%d",&choice);

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

if(choice == 1){

printf("How many years? ");

scanf("%d",&years);

product = (struct ListRecord\*)malloc(sizeof(struct ListRecord));

if (product == NULL){

printf("Out of the memory!\n");

exit(1);

}

product->head = (struct Node\*)malloc(sizeof(struct Node));

if (product->head == NULL){

printf("Out of memory!\n");

exit(1);

}

product->head->next=NULL;

product->tail= product->head;

product->size=0;

for(i=0;i<years;i++){

struct Node \*temp;

temp = (struct Node\*)malloc(sizeof(struct Node));

printf("Enter price and year for the product: ");

scanf("%d %d",&temp->prices,&temp->year);

product->tail->next=temp;

temp->next=NULL;

product->tail=temp;

product->size++;

}

printf("Prices and year info for the product is created successfully!\n");

}

else if (choice==2)

PrintProducts(product);

else if (choice==3){

int year;

cheapest = findCheapest(product);

struct Node \*temp=product->head->next;

while(temp){

if (cheapest == temp->prices)

year = temp->year;

temp = temp->next;

}

printf("The cheapest price of the product is %d tl in %d!\n",cheapest,year);

}

}while(choice!=4);

return 0;

}

void PrintProducts(struct ListRecord \*product){

struct Node \*temp;

temp = product->head->next;

printf("Yearly price for the product\n");

while(temp){

printf("%d: %d tl\n",temp->year,temp->prices);

temp=temp->next;

}

}

int findCheapest(struct ListRecord \*product){

int cheapest=product->head->next->prices;

struct Node \*temp;

temp= product->head->next->next;

while(temp){

if (temp->prices < cheapest)

cheapest = temp->prices;

temp= temp->next;

}

return cheapest;

}