zoya.chaudhry.127

ASSIGNMENT#1

***Data Structures & Algorithms***

***WAQAS ASHIQ***

***BCS-F11-201***

***SECTION C***

***SUBMITTED TO: Sir Usman Ashraf***

**Q1:**

**Code:**

#includ<stdio.h>

#include<conio.h>

void Ins(char BkShlf[]);

void del(char BkShlf[]);

void upd(char BkShlf[]);

void main(){

int s;

char BkShlf[5][50]={"In The Republic Of Night","Confessional","Forbidden Love","Mafia","Heros Of Islam"};

for(int w=0;w<5;w++){

printf("Book At Place %d In The Book Shelf Is: %s\n",w,BkShlf[w]);

}

printf("Press 1 If You Want To Enter Books In The Shlef:\nPress 2 If You Want To Remove A Book From The Shelf:\nPress 3 If You Want To Update Book Shelf: ");

scanf("%d",&s);

switch ( s ) {

case 1 :

Ins( BkShlf[] );

case 2 :

del(BkShlf[] );

case 3 :

upd(BkShlf[] );

}

getch();

}

void Ins(char BkShlf[]){

int na;

printf("\nEnter The Number Of Books You Want To Enter: ");

scanf("%d",&na);

int p;

for(int a=1;a<=na;a++){

printf("Enter The Index You Want To Place Book: ");

scanf("%d",&p);

int d=p;

for(p;p<5;p++){

BkShlf[p+1]=BkShlf[p];

}

printf("Enter The Name Of The Book You Want To Enter At Place %d: ",d);

scanf("%s",&BkShlf[d]);

}

for(int mb=0;mb<5;mb++){

printf("The Book at index %d after inserting books is: %s",mb,BkShlf[mb]);

}

}

void del(char BkShlf[]){

int nd;

printf("Enter The Number Of Books Which You Want To Delete: ");

scanf("%d",&nd);

int fx;

for(int as=0;as<nd;as++){

printf("Enter The Index From Where You Want To Delete Book: ");

scanf("%d",&fx);

int mx=fx;

for(fx;fx<5;fx++){

BkShlf[fx]=BkShlf[fx+1];

}

printf("Enter The Name Of The Book Which You Want To Enter At: ");

scanf("%s",BkShlf[mx]);

}

for(int md=0;md<5;md++){

printf("The Book at index %d after deleting books is: %s",md,BkShlf[md]);

}

}

void upd(char BkShlf[]){

int ud;

printf("Enter The Number Of Books Which You Want To Delete: ");

scanf("%d",&ud);

int mx;

char upda;

for(int bs=0;bs<ud;bs++){

printf("Enter The Index From Where You Want To Update Book: ");

scanf("%d",&mx);

printf("Enter The Name Of Book Which You Want To Update: ");

scanf("%c",&upda);

BkShlf[mx]=upda;

}

for(int mc=0;mc<5;mc++){

printf("The Book at index %d after updating books is: %s",mc,BkShlf[mc]);

}

}

**Q2:**

**Code:**

#include <stdio.h>

#include <stdlib.h>

int cmp(const void \*a, const void \*b){

return \*(int\*)a - \*(int\*)b;

}

#define ROW\_SIZE 3

#define COL\_SIZE 4

int main(void){

int M[ROW\_SIZE][COL\_SIZE]={{3,5,7,1},{4,9,2,0},{9,3,6,2}};

int c,r,\*p;

for(p=&M[0][0],r=0;r<ROW\_SIZE;++r){

for(c=0;c<COL\_SIZE;++c){

printf("%d ",\*p++);

}

printf("\n");

}

printf("\n");

qsort(&M[0][0], ROW\_SIZE\*COL\_SIZE, sizeof(int), cmp);

for(p=&M[0][0],r=0;r<ROW\_SIZE;++r){

for(c=0;c<COL\_SIZE;++c){

printf("%d ",\*p++);

}

printf("\n");

}

return 0;

}