Warm Up 1)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int \*x;

int n;

int i;

printf(" Please enter the dimension of array\n");

scanf("%d",&n);

x = (int\*)malloc(sizeof(int)\*n);

printf("Please enter the numbers you want to store\n");

//This loop stores the values

for(i = 0;i<n;i++)

scanf("%d",x+i); //equvilant scanf("%d", &x[i]);

printf("The numbers you stored\n");

//Prints the numbers

for(i=0;i<n;i++)

printf("%d ",\*(x+i));// printf("%d",x[i]);

printf("\n");

free(x);

return 0;

}

Warm Up 2)

#include <stdio.h>

#include <stdlib.h>

int main()

{

char \*stuff;

int n;

printf("Enter the number of characters: ");

scanf("%d",&n);

fflush(stdin);

stuff = (char\*)malloc(sizeof(char)\*n);

//Checks if I have memory space

if(stuff==NULL)

{

printf("Error Allocating Memory\n");

exit (1);

}

printf("\nEnter the characters: ");

fgets(stuff, n, stdin);

printf("\nYou entered: %s\n", stuff);

free(stuff);

return 0;}

Warm Up3)

#include<stdio.h>

#include<stdlib.h>

int main()

{

int \*x;

int n, i;

printf("Please enter the number of elements you need:\n");

scanf("%d",&n);

x = (int\*)calloc(n,sizeof(int));

if(x==NULL)

{

printf("Error\n");

exit (1);

}

//Array values before storing anything

printf("Array before storing any number\n");

for(i=0; i<n;i++)

printf("%d ", x[i]);

printf("\n");

//Stores the user input into array

for(i=0;i<n;i++)

{

printf("Please enter the element %d\n",i);

scanf("%d",x+i); //x+i = x[i]

}

//Array values after storing anything

printf("Array after storing numbers\n");

for(i=0; i<n;i++)

printf("%d ", x[i]);

printf("\n");

free(x);

return 0;

}

Warm Up4)

#include <stdio.h>

#include <stdlib.h>

int main()

{

int \*\*x;

int numOfRows;

int numOfColumns;

int i,j;

printf("Please enter the number of rows\n");

scanf("%d", &numOfRows);

printf(" Please enter the number of columns \n");

scanf("%d", &numOfColumns);

x = (int\*\*)malloc(sizeof(int\*)\*numOfRows);

if(x==NULL)

exit(1);

for(i=0; i<numOfRows;i++)

{

x[i]= (int\*)malloc(sizeof(int)\*numOfColumns);

if(x[i] == NULL)

exit(1);

}

for(i=0;i<numOfRows;i++)

{

for(j=0;j<numOfColumns;j++)

{

printf(" Please enter element %d%d\n",i,j);

scanf("%d", &x[i][j]);

}

}

for(i=0;i<numOfRows;i++)

{

for(j = 0;j<numOfColumns;j++)

{

printf("Element %d%d is %d\n",i,j,x[i][j]);

}

}

free(x);

return 0;

}

## Warm-up Exercise 5:

Approach 2:

Allocate the 2D array in 1D behavior.

#include <stdio.h>

#include <stdlib.h>

int main()

{

int \*x;

int numOfRows;

int numOfColumns;

int i,j;

printf("Please enter the number of rows\n");

scanf("%d", &numOfRows);

printf(" Please enter the number of columns \n");

scanf("%d", &numOfColumns);

x= (int\*)malloc(sizeof(int)\*numOfRows\*numOfColumns);

//x = (int\*\*)malloc(sizeof(int\*)\*numOfRows);

if(x==NULL)

{

printf("Error Allocating\n");

exit(1);

}

for(i=0;i<numOfRows;i++)

{

for(j=0;j<numOfColumns;j++)

{

printf(" Please enter element %d%d\n",i,j);

scanf("%d", &x[i\*numOfColumns+j]);

}

}

for(i=0;i<numOfRows;i++)

{

for(j = 0;j<numOfColumns;j++)

{

printf("Element %d%d is %d\n",i,j,x[i\*numOfColumns+j]);

}

}

free(x);

return 0;

}

Warm Up 6)

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

int main()

{

struct bank\_account costumer\_1;

strcpy(costumer\_1.first\_name,"Sefa");

strcpy(costumer\_1.last\_name,"Mutlu");

costumer\_1.account\_number = 21673;

costumer\_1.balance = 45.7;

printf(" First Name %s\n", costumer\_1.first\_name);

printf(" Last Name %s\n", costumer\_1.last\_name);

printf(" Account # %d\n",costumer\_1.account\_number);

printf(" Balance: %0.2f\n",costumer\_1.balance);

return 0;

}

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

int main()

{

struct bank\_account costumer\_1;

printf("Enter First name:\n");

scanf("%s",costumer\_1.first\_name);

printf("Enter Last name:\n");

scanf("%s",costumer\_1.last\_name);

printf("Enter Account #:\n");

scanf("%d",&costumer\_1.account\_number);

printf("Enter Balance:\n");

scanf("%f", &costumer\_1.balance);

printf("\n\n");

printf(" First Name %s\n", costumer\_1.first\_name);

printf(" Last Name %s\n", costumer\_1.last\_name);

printf(" Account # %d\n",costumer\_1.account\_number);

printf(" Balance: %0.2f\n",costumer\_1.balance);

return 0;

}

Warm Up 7

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

int main()

{

struct bank\_account costumer\_1;

struct bank\_account \*pCostumer = &costumer\_1;

printf("Enter First name:\n");

scanf("%s",pCostumer->first\_name);

printf("Enter Last name:\n");

scanf("%s",pCostumer->last\_name);

printf("Enter Account #:\n");

scanf("%d",&pCostumer->account\_number);

printf("Enter Balance:\n");

scanf("%f", &pCostumer->balance);

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

printf(" First Name %s\n", pCostumer->first\_name);

printf(" Last Name %s\n", pCostumer->last\_name);

printf(" Account # %d\n",pCostumer->account\_number);

printf(" Balance: %0.2f\n",pCostumer->balance);

return 0;

}

Warm Up8)

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

int main()

{

int i;

struct bank\_account costumer[3];

//Input

for(i=0; i<3; i++)

{

printf("Please enter %d) customer name, last name, account # and balance\n",i+1);

scanf("%s %s %d %f", costumer[i].first\_name,costumer[i].last\_name,&costumer[i].account\_number,&costumer[i].balance);

}

//Output

for(i=0; i<3; i++)

{

printf("The costumer's name %s %s, Account # %d and balance %f\n",costumer[i].first\_name,costumer[i].last\_name,costumer[i].account\_number,costumer[i].balance);

}

return 0;

}

Warm Up 9)

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

void printBankAccounts(struct bank\_account \*costumer, int size);

int main()

{

int i;

struct bank\_account costumer[3];

//Input

for(i=0; i<3; i++)

{

printf("Please enter %d) customer name, last name, account # and balance\n",i+1);

scanf("%s %s %d %f", costumer[i].first\_name,costumer[i].last\_name,&costumer[i].account\_number,&costumer[i].balance);

}

printBankAccounts(costumer,3);

return 0;

}

void printBankAccounts(struct bank\_account \*costumer, int size)

{

int i;

//Output

for(i=0; i<3; i++)

{

printf("The costumer's name %s %s, Account # %d and balance %f\n",costumer[i].first\_name,costumer[i].last\_name,costumer[i].account\_number,costumer[i].balance);

}

}

Warm Up 10)

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

void printBankAccounts(struct bank\_account \*costumer, int size);

int main()

{

int i,n;

struct bank\_account \*costumer;

printf("Enter # of customers\n");

scanf("%d", &n);

costumer = (struct bank\_account\*)malloc(sizeof(struct bank\_account)\*n);

//Input

for(i=0; i<n; i++)

{

printf("Please enter %d) customer name, last name, account # and balance\n",i+1);

scanf("%s %s %d %f", costumer[i].first\_name,costumer[i].last\_name,&costumer[i].account\_number,&costumer[i].balance);

}

printBankAccounts(costumer,n);

return 0;

}

void printBankAccounts(struct bank\_account \*costumer, int size)

{

int i;

//Output

for(i=0; i<size; i++)

{

printf("The costumer's name %s %s, Account # %d and balance %f\n",costumer[i].first\_name,costumer[i].last\_name,costumer[i].account\_number,costumer[i].balance);

}

}

Warm Up 11)

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct bank\_account {

char first\_name[20];

char last\_name[20];

int account\_number;

float balance;

};

void printBankAccounts(struct bank\_account \*costumer, int size);

void getBankAccounts(struct bank\_account \* costumer, int size);

int main()

{

int i,n;

struct bank\_account \*costumer;

printf("Enter # of customers\n");

scanf("%d", &n);

costumer = (struct bank\_account\*)malloc(sizeof(struct bank\_account)\*n);

getBankAccounts(costumer,n);

printf("\n");

printBankAccounts(costumer,n);

return 0;

}

void printBankAccounts(struct bank\_account \*costumer, int size)

{

int i;

//Output

for(i=0; i<size; i++)

{

printf("The costumer's name %s %s, Account # %d and balance %f\n",costumer[i].first\_name,costumer[i].last\_name,costumer[i].account\_number,costumer[i].balance);

}

}

void getBankAccounts(struct bank\_account \* costumer, int size)

{

int i;

//Input

for(i=0; i<size; i++)

{

printf("Please enter %d) customer name, last name, account # and balance\n",i+1);

scanf("%s %s %d %f", costumer[i].first\_name,costumer[i].last\_name,&costumer[i].account\_number,&costumer[i].balance);

}

}