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Source code:

#include <stdlib.h>

#include <stdio.h>

void getIndexOf(int A[], int n);

void countOf(int A[] , int n );

void changeElement(int A[],int n);

void printArray(int A[], int n);

int main (){

int A[] = {10 ,20 ,24, 12, 32, 45, 40, 20 ,40 ,40};

int length = 10;

int running = 1;

int choice = 0;

while (running){

do {

printf("Choose Option:\n0. Get Index of Value\n1.Count Occurrences of Value\n2.Change Element at Index\n3.View Array\n");

scanf("%d", &choice);

}while( !( choice >=0 && choice <=3));

switch(choice){

case 0 :

getIndexOf(A, length);

break;

case 1 :

countOf(A, length);

break;

case 2 :

changeElement(A, length);

break;

case 3 :

printArray(A, length);

break;

}

do{

printf("Would you like to use the handler again? 1 for Yes 0 for no \n");

scanf("%d", &running);

}while( running != 1 && running !=0 );

}

}

void getIndexOf(int A[], int n){

int key= -1;

int index = -1;

printf("Enter key to locate:\n");

scanf("%d", &key);

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

if( A[i] == key ){

index = i;

break;

}

}

printf("Value is at index %d\n" , index);

}

void countOf(int A[] , int n ){

int key = 0;

int count = 0;

printf("Enter key to count\n");

scanf("%d", &key);

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

if(A[i] == key)

++count;

}

printf("Key occurs %d times\n", count);

}

void changeElement(int A[],int n){

int value=0;

int index = 0;

printf("Enter index to change\n");

scanf("%d", &index);

printf("Enter value to change to\n");

scanf("%d", &value);

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

if(i == index){

A[i] = value;

printf("Updated\n");

break;

}

}

}

void printArray(int A[], int n){

printf("{");

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

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

}

printf("}\n");

}

Print out of console with tests :

Brian@Brians-Surfacebook /c/Users/brian/Documents/GitHub/C-Class

$ ./project2

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

3

{ 10, 20, 24, 12, 32, 45, 40, 20, 40, 40, }

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

2

Enter index to change

3

Enter value to change to

3

Updated

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

3

{ 10, 20, 24, 3, 32, 45, 40, 20, 40, 40, }

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

1

Enter key to count

3

Key occurs 1 times

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

0

Enter key to locate:

7

Value is at index -1

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

1

Enter key to count

42

Key occurs 0 times

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

2

Enter index to change

2

Enter value to change to

47

Updated

Would you like to use the handler again? 1 for Yes 0 for no

4

Would you like to use the handler again? 1 for Yes 0 for no

3

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

5

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

6

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

-1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

3

{ 10, 20, 47, 3, 32, 45, 40, 20, 40, 40, }

Would you like to use the handler again? 1 for Yes 0 for no

1

Choose Option:

0. Get Index of Value

1.Count Occurences of Value

2.Change Element at Index

3.View Array

1

Enter key to count

40

Key occurs 3 times

Would you like to use the handler again? 1 for Yes 0 for no

0