

Jason Bonvie  
arrayHandler.c  
Assignment #2

Code:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <time.h>
4
5
6  void printer();
7
8
9  int main(int argc, char const *argv[]){
10
11     int A[10] = {10 ,20 ,24, 12, 32, 45, 40, 20 ,40 ,40};
12     int TorF = 1;
13     int input;
14     int key;
15
16
17     printf("\t \t~~~~~Welcome to the Array Handler 5000~~~~~\n \n");
18     printf("The Array we have to play with is : " );
19     for(int i = 0; i < sizeof(A)/sizeof(int); i++){
20         printf( "%d ",A[i]);
21     }
22
23     while(TorF == 1 ){
24         printer();
25         scanf("%d", &input);
26
27         if (input == 1 ){
28
29             printf("What is the key you would like to find the index for? \n");
30             scanf("%d", &key);
31             for(int x = 0; x < sizeof(A)/sizeof(int); x++){
32                 if(key == A[x]){
33                     printf("The index of the first occurrence of this key is: ");
34                     printf("%d \n", x);
35                     break;
36                 }
37             }
38
39         }
40
41         // This covers case 2 where the user would like to select how many times a specific key appears in the array.
42         if (input == 2 ){
43             int count = 0;
44             printf("What is the key you would like to count the occurrences of ? \n");
45             scanf("%d", &key);
46             for(int x = 0; x < sizeof(A)/sizeof(int); x++){
47                 if(key == A[x]){
48                     count ++;
49                 }
50             }
51             printf("There are ");
52             printf("%d",count);
53             printf(" instances of this key \n");
54         }
55
56         // This covers case 3 where the user is allowed to select an index of the array and change the key at that index.
57         if (input == 3 ){
58             int index;
59             int newKey;
60             printf("What index would you like to change the key at ? \n");
61             scanf("%d", &index);
62             printf("What would you like the new Key value to be ? \n");
63             scanf("%d", &newKey);
```

```

62         printf("What would you like the new key value to be? \n");
63         scanf("%d", &newKey);
64         A[index] = newKey;
65         printf("All Done! \n");
66
67     }
68     // This scenario covers the case 4 and displays the full array at its current state.
69     if (input == 4 ){
70         for(int i = 0; i < sizeof(A)/sizeof(int); i++){
71             printf( "%d ",A[i]);
72         }
73     }
74     printf("\nDo you want to continue? [1] yes [0] no ");
75     scanf("%d", &TorF);
76 }
77
78 printf("\n");
79 return 0;
80 }
81
82 void printer(){
83     printf("\n \n \t \t-----Please Select From the Menu Below-----\n \n");
84     printf("1) Get the index of certain key in array A \n");
85     printf("2) Count the occurrences of certain key in array A\n");
86     printf("3) Change the element at specific index in array A with the value of certain key. \n");
87     printf("4) View array A \n");
88
89 }
90

```

The terminal output below just goes over an example of each of the selections.

### Terminal outputs:

```
Jasons-MacBook-Pro:~/Desktop/GitHub/GetGood/Cclass/ArrayHandler ➤ gcc -o arrayHandler.out arrayHandler.c
Jasons-MacBook-Pro:~/Desktop/GitHub/GetGood/Cclass/ArrayHandler ➤ ./arrayHandler.out
~~~~~Welcome to the Array Handler 5000~~~~~

The Array we have to play with is : 10 20 24 12 32 45 40 20 40 40

-----Please Select From the Menu Below-----
1) Get the index of certain key in array A
2) Count the occurrences of certain key in array A
3) Change the element at specific index in array A with the value of certain key.
4) View array A
1
What is the key you would like to find the index for?
40
The index of the first occurrence of this key is: 6

Do you want to continue? [1] yes [0] no 1

-----Please Select From the Menu Below-----
1) Get the index of certain key in array A
2) Count the occurrences of certain key in array A
3) Change the element at specific index in array A with the value of certain key.
4) View array A
2
What is the key you would like to count the occurrences of ?
40
There are 3 instances of this key

Do you want to continue? [1] yes [0] no 1

-----Please Select From the Menu Below-----
1) Get the index of certain key in array A
2) Count the occurrences of certain key in array A
3) Change the element at specific index in array A with the value of certain key.
4) View array A
3
What index would you like to change the key at ?
1
What would you like the new Key value to be ?
1000
All Done!

Do you want to continue? [1] yes [0] no 1

-----Please Select From the Menu Below-----
1) Get the index of certain key in array A
2) Count the occurrences of certain key in array A
3) Change the element at specific index in array A with the value of certain key.
4) View array A
4
10 1000 24 12 32 45 40 20 40 40
Do you want to continue? [1] yes [0] no 0

Jasons-MacBook-Pro:~/Desktop/GitHub/GetGood/Cclass/ArrayHandler ➤
```