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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