

1. PROGRAM TO READ DATA AND PRINT DATA IN A ARRAY

The screenshot shows the Programiz Online C Compiler interface. The code in `main.c` is as follows:

```
1 #include <stdio.h>
2 int main()
3 {
4     int n,i;
5     scanf("%d",&n);
6     int a[n];
7     for(i=0;i<n;i++){
8         scanf("%d",&a[i]);
9     }
10    for(i=0;i<n;i++){
11        printf("%d\t",a[i]);
12    }
13    return 0;
14 }
```

The output of the program is displayed on the right:

```
/tmp/VzGMU1s.JHs.o
5
1 2 3 4 5
1 2 3 4 5
```

The browser's taskbar at the bottom shows the Windows Start menu, search bar, and various application icons. The system clock indicates 09:34 on 21-12-2023.

2. SUM OF NUMBERS IN A ARRAY

The screenshot shows the Programiz Online C Compiler interface. The code in `main.c` is as follows:

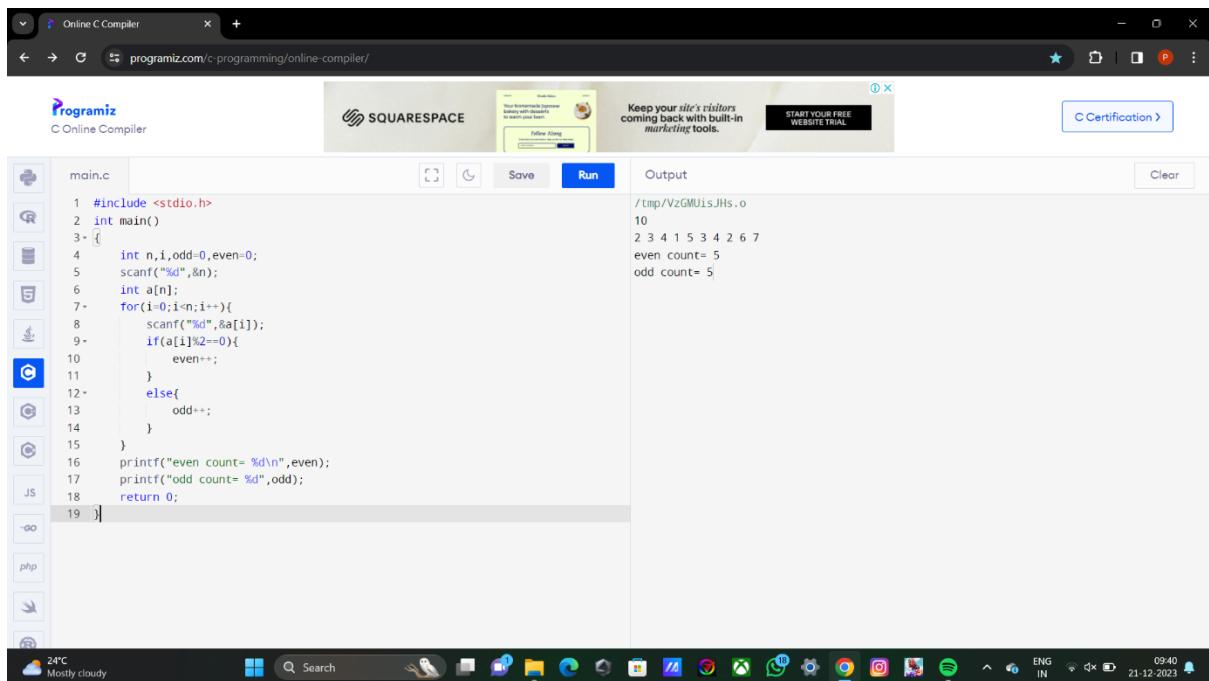
```
1 #include <stdio.h>
2 int main()
3 {
4     int n,i,sum=0;
5     scanf("%d",&n);
6     int a[n];
7     for(i=0;i<n;i++){
8         scanf("%d",&a[i]);
9         sum+=a[i];
10    }
11    printf("SUM= %d",sum);
12    return 0;
13 }
```

The output of the program is displayed on the right:

```
/tmp/VzGMU1s.JHs.o
5
1 2 3 4 5
SUM= 15
```

The browser's taskbar at the bottom shows the Windows Start menu, search bar, and various application icons. The system clock indicates 09:36 on 21-12-2023.

3. TO FIND COUNT OF ODD AND EVEN NUMBERS IN A GIVEN ARRAY.



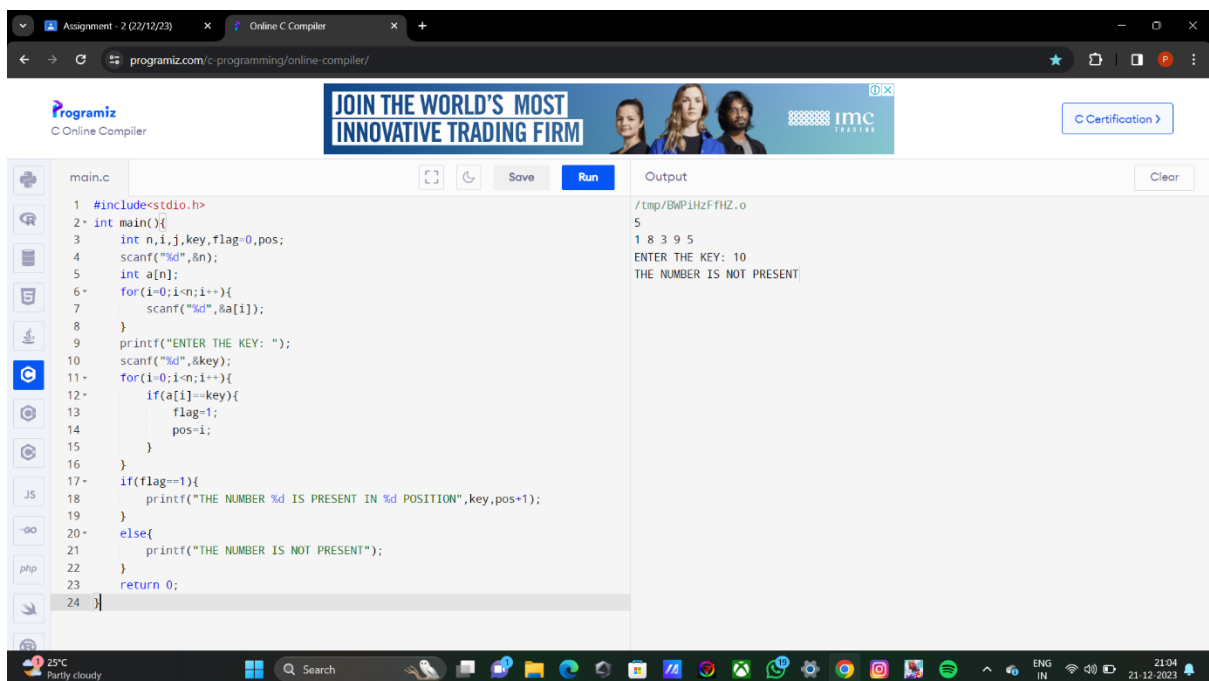
The screenshot shows a web browser window with the URL `programiz.com/c-programming/online-compiler/`. The page features a header with the Programiz logo, a Squarespace advertisement, and a 'C Certification' button. The main content area is divided into two panels: a code editor on the left and an output panel on the right. The code editor contains a C program that counts odd and even numbers in an array. The output panel shows the results of the program's execution.

```
1 #include <stdio.h>
2 int main()
3 {
4     int n,i,odd=0,even=0;
5     scanf("%d",&n);
6     int a[n];
7     for(i=0;i<n;i++){
8         scanf("%d",&a[i]);
9         if(a[i]%2==0){
10             even++;
11         }
12         else{
13             odd++;
14         }
15     }
16     printf("even count= %d\n",even);
17     printf("odd count= %d",odd);
18     return 0;
19 }
```

The output panel displays the following text:

```
/tmp/VzGMUisJHs.o
10
2 3 4 1 5 3 4 2 6 7
even count= 5
odd count= 5
```

4. LINEAR SEARCH



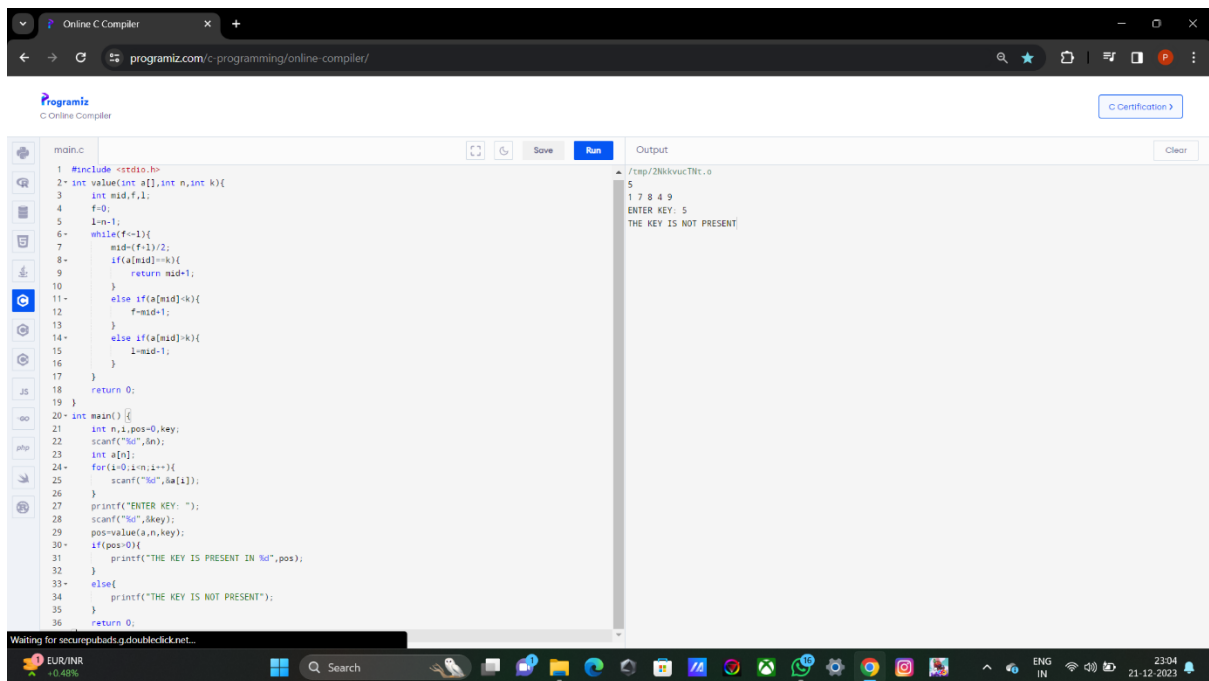
The screenshot shows a web browser window with the URL `programiz.com/c-programming/online-compiler/`. The page features a header with the Programiz logo, a banner for 'JOIN THE WORLD'S MOST INNOVATIVE TRADING FIRM' with the IMC logo, and a 'C Certification' button. The main content area is divided into two panels: a code editor on the left and an output panel on the right. The code editor contains a C program that implements a linear search algorithm. The output panel shows the results of the program's execution.

```
1 #include<stdio.h>
2 int main(){
3     int n,i,j,key,flag=0,pos;
4     scanf("%d",&n);
5     int a[n];
6     for(i=0;i<n;i++){
7         scanf("%d",&a[i]);
8     }
9     printf("ENTER THE KEY: ");
10    scanf("%d",&key);
11    for(i=0;i<n;i++){
12        if(a[i]==key){
13            flag=1;
14            pos=i;
15        }
16    }
17    if(flag==1){
18        printf("THE NUMBER %d IS PRESENT IN %d POSITION",key,pos+1);
19    }
20    else{
21        printf("THE NUMBER IS NOT PRESENT");
22    }
23    return 0;
24 }
```

The output panel displays the following text:

```
/tmp/BwPiHzFfHZ.o
5
1 8 3 9 5
ENTER THE KEY: 10
THE NUMBER IS NOT PRESENT
```

5. BINARY SEARCH

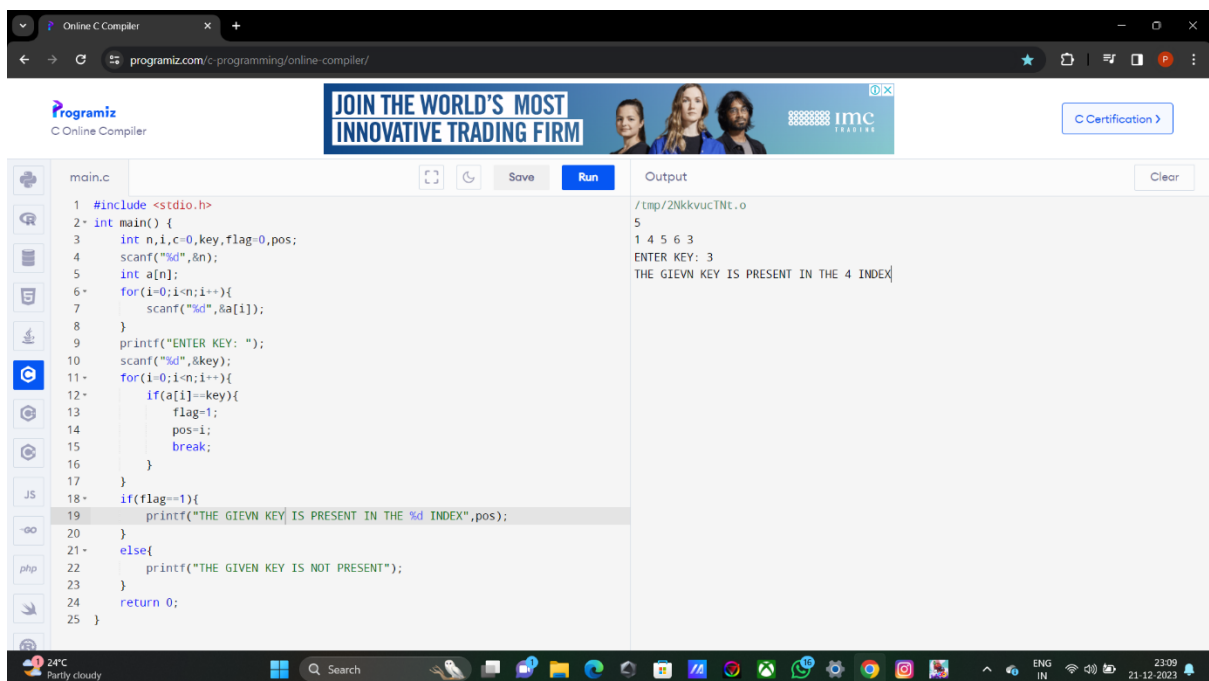


```
1 #include <stdio.h>
2 int value(int a[],int n,int k){
3     int mid,f,l;
4     f=0;
5     l=n-1;
6     while(f<=l){
7         mid=(f+l)/2;
8         if(a[mid]==k){
9             return mid+1;
10        }
11        else if(a[mid]<k){
12            f=mid+1;
13        }
14        else if(a[mid]>k){
15            l=mid-1;
16        }
17    }
18    return 0;
19 }
20 int main() {
21     int n,i,pos=0,key;
22     scanf("%d",&n);
23     int a[n];
24     for(i=0;i<n;i++){
25         scanf("%d",&a[i]);
26     }
27     printf("ENTER KEY: ");
28     scanf("%d",&key);
29     pos=value(a,n,key);
30     if(pos>0){
31         printf("THE KEY IS PRESENT IN %d",pos);
32     }
33     else{
34         printf("THE KEY IS NOT PRESENT");
35     }
36     return 0;
37 }
```

Output

```
/tmp/2NkkvucTnt.o
5
1 7 8 4 9
ENTER KEY: 5
THE KEY IS NOT PRESENT
```

6. LINEAR SEARCH TO PRINT WITH INDEX POSITION



```
1 #include <stdio.h>
2 int main() {
3     int n,i,c=0,key,flag=0,pos;
4     scanf("%d",&n);
5     int a[n];
6     for(i=0;i<n;i++){
7         scanf("%d",&a[i]);
8     }
9     printf("ENTER KEY: ");
10    scanf("%d",&key);
11    for(i=0;i<n;i++){
12        if(a[i]==key){
13            flag=1;
14            pos=i;
15            break;
16        }
17    }
18    if(flag==1){
19        printf("THE GIEVN KEY IS PRESENT IN THE %d INDEX",pos);
20    }
21    else{
22        printf("THE GIVEN KEY IS NOT PRESENT");
23    }
24    return 0;
25 }
```

Output

```
/tmp/2NkkvucTnt.o
5
1 4 5 6 3
ENTER KEY: 3
THE GIEVN KEY IS PRESENT IN THE 4 INDEX
```

7. INSERTION OF AN KEY ELEMENT IN THE GIVEN POSITION.

The screenshot displays a web browser window with the URL `programiz.com/c-programming/online-compiler/`. The page features a header with the Programiz logo and a navigation bar. A banner advertisement for PC security is visible. The main content area is divided into three sections: a code editor, a file explorer, and an output window.

The code editor shows a C program in `main.c` that implements the insertion of a key element into an array at a specified position. The program includes `<stdio.h>` and defines a `main` function. It prompts the user to enter the number of elements (`n`), a key value, and a position (`pos`). It then reads an array of `n` integers. The insertion logic shifts elements from the position `pos` onwards one position to the right to make space for the new key element. Finally, it prints the modified array.

```
1 #include <stdio.h>
2 int main() {
3     int n,i,key,pos;
4     scanf("%d",&n);
5     int a[n];
6     for(i=0;i<n;i++){
7         scanf("%d",&a[i]);
8     }
9     printf("ENTER KEY: ");
10    scanf("%d",&key);
11    printf("ENTER POSITION: ");
12    scanf("%d",&pos);
13    for(i=n;i>pos;i--){
14        a[i]=a[i-1];
15    }
16    a[pos]=key;
17    for(i=0;i<n+1;i++){
18        printf("%d\t",a[i]);
19    }
20    return 0;
21 }
```

The output window shows the execution results, including the initial array `1 5 3 7 8`, the entered key `100`, the entered position `4`, and the final array `1 5 3 7 100 8`.

The bottom of the image shows a Windows taskbar with the system clock indicating 23:12 on 21-12-2023.