EXERCISE-29

AIM: To write a C program that finds and prints duplicate values in a given array.

Algorithm:

1. Start the program.
2. Input the number of elements and the array values.
3. Use two nested loops:
    - Outer loop selects each element.
    - Inner loop compares it with the rest of the elements.
4. If a duplicate is found and hasn't been printed before, print it.
5. End the program.

Program Code:

```
#include <stdio.h>
int main() {
   int arr[100], n, i, j;
   int visited[100] = {0};
   printf("Enter number of elements: ");
   scanf("%d", &n);
   printf("Enter %d elements:\n", n);
   for (i = 0; i < n; i++)
      scanf("%d", &arr[i]);
   printf("Duplicate elements are:\n");
   for (i = 0; i < n; i++) {
```

```
        if (visited[i] == 1)
            continue;
        int count = 1;
        for (j = i + 1; j < n; j++) {
            if (arr[i] == arr[j]) {
                visited[j] = 1;
                count++;
            }
        }
        if (count > 1) {
            printf("%d\n", arr[i]);
        }
    }
    return 0;
}
```

Input and Output:

```
Enter number of elements: 7
Enter 7 elements:
1 2 3 2 4 1 5
Duplicate elements are:
1
2
```

Result:

The program successfully identifies and displays duplicate values in the array.