Aim:

To find an element (needle) in a given array (haystack).

Algorithm:

1. Read the array and key.
2. Traverse and check if key matches any element.
3. Print index if found.

Code:

```
#include <stdio.h>


int main() {
    int arr[] = {10, 20, 30, 40}, key = 30, found = 0;
    for(int i = 0; i < 4; i++) {
        if(arr[i] == key) {
            printf("Found at index %d\n", i);
            found = 1;
            break;
        }
    }
    if(!found) printf("Not found\n");
    return 0;
}
```

Input:

```
arr = {10, 20, 30, 40}, key = 30
```

Output:

```
Found at index 2
```

Result:

Element search completed successfully.