Question 1

```c
// Q2. Write a C program to find the sum of all elements in an array of
// 10 integers.

# include <stdio.h>

int main(){
    int arr[10];
    int result=0;
    for(int i=0;i<10;i++){
        printf("enter the %d th number",i);
        scanf("%d",&arr[i]);
        result=result+arr[i];
    }

    printf("the sum of those 10 numbers is %d",result);

    return 0;
}
```

Question 2

```c
// Q3. Write a C program to find the maximum and minimum elements in an array.
#include <stdio.h>

int main() {
    int arr[10];

    // Input numbers
    for (int i = 0; i < 10; i++) {
        printf("Enter the %dth number: ", i);
        scanf("%d", &arr[i]);
    }

    // Initialize min and max with first element
    int maximum = arr[0];
    int minimum = arr[0];

    // Check rest of the array
    for (int i = 1; i < 10; i++) {
        if (arr[i] > maximum) {
            maximum = arr[i];
        }
        if (arr[i] < minimum) {
            minimum = arr[i];
        }
    }

    printf("Maximum of the array is %d\n", maximum);
    printf("Minimum of the array is %d\n", minimum);

    return 0;
}
```

Question 3

```c
// Q4. Write a C program to search for an element in an array (Linear
// Search).

#include <stdio.h>

int main() {
    int n, key, found = 0;

    printf("Enter the size of the array: ");
    scanf("%d", &n);

    int arr[n];

    printf("Enter %d elements:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    // Input element to search
    printf("Enter the element to search: ");
    scanf("%d", &key);

    // Linear Search
    for (int i = 0; i < n; i++) {
        if (arr[i] == key) {
            printf("Element %d found at index %d\n", key, i);
            found = 1;
            break; // stop after first occurrence
        }
    }

    if (!found) {
        printf("Element %d not found in the array\n", key);
    }

    return 0;
}
```

Question 4

```c
// Q5. Write a C program to count how many even and odd numbers are present in an array.
#include <stdio.h>

int main() {
    int n, evenCount = 0, oddCount = 0;

    printf("Enter the size of the array: ");
    scanf("%d", &n);

    int arr[n];

    // Input elements
    printf("Enter %d elements:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    // Count even and odd
    for (int i = 0; i < n; i++) {
        if (arr[i] % 2 == 0) {
            evenCount++;
        } else {
            oddCount++;
        }
    }

    // Output results
    printf("Number of even elements: %d\n", evenCount);
    printf("Number of odd elements: %d\n", oddCount);

    return 0;
}
```

Question 5

```c
// Q6. Write a C program to print the reverse of the array elements.
#include <stdio.h>

int main() {
    int n;

    printf("Enter the size of the array: ");
    scanf("%d", &n);

    int arr[n]; // variable-length array

    // Input elements
    printf("Enter %d elements:\n", n);
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    // Print array in reverse
    printf("Array in reverse order:\n");
    for (int i = n - 1; i >= 0; i--) {
        printf("%d ", arr[i]);
    }

    return 0;
}
```

Question 6

```c
// Q7. Write a C program to merge two arrays.
#include <stdio.h>

int main() {
    int n1, n2;

    // Input sizes
    printf("Enter the size of the first array: ");
    scanf("%d", &n1);

    printf("Enter the size of the second array: ");
    scanf("%d", &n2);

    int arr1[n1], arr2[n2], merged[n1 + n2];

    // Input first array
    printf("Enter %d elements of first array:\n", n1);
    for (int i = 0; i < n1; i++) {
        scanf("%d", &arr1[i]);
    }

    // Input second array
    printf("Enter %d elements of second array:\n", n2);
    for (int i = 0; i < n2; i++) {
        scanf("%d", &arr2[i]);
    }

    // Copy arr1 into merged
    for (int i = 0; i < n1; i++) {
        merged[i] = arr1[i];
    }

    // Copy arr2 into merged
    for (int i = 0; i < n2; i++) {
        merged[n1 + i] = arr2[i];
    }

    // Print merged array
    printf("Merged array:\n");
    for (int i = 0; i < n1 + n2; i++) {
        printf("%d ", merged[i]);
    }

    return 0;
}
```