# Question 1

// 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

// 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

// 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

// 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

// 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

// 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;  
}