Write a C program to perform below actions in an array element with length of 10.

1. How many even Numbers in the array
2. sort the array in ascending order
3. sort the array in descending order
4. remove repetition numbers and print the array

Step 1 . Created the directory structure using following command

mkdir src exec inc && touch src/main.c inc/main.h

Step 2. code inside `main.h`

```
#define LENGTH 10

// display the array
void printArray(int arr[],int length){
  for(int i=0;i<length;i++){
     printf("%d ",arr[i]);
  }
}
// Function to count even numbers in the array
int countEvenNumbers(int arr[], int length) {
  int evenCount = 0;
  for (int i = 0; i < length; i++) {
     if (arr[i] % 2 == 0) {
        evenCount++;
     }
  }

  return evenCount;
```

```
}

// Function to sort the array in ascending order
void sortAscending(int arr[], int length) {
  int temp;
  for (int i = 0; i < length - 1; i++) {
    for (int j = i + 1; j < length; j++) {
      if (arr[i] > arr[j]) {
        temp = arr[i];
        arr[i] = arr[j];
        arr[j] = temp;
      }
    }
  }
}

// Function to sort the array in descending order
void sortDescending(int arr[], int length) {
  int temp;
  for (int i = 0; i < length - 1; i++) {
    for (int j = i + 1; j < length; j++) {
      if (arr[i] < arr[j]) {
        temp = arr[i];
        arr[i] = arr[j];
        arr[j] = temp;
      }
    }
  }
}

// Function to remove duplicates from the array and print the
unique array
void removeDuplicates(int arr[], int *length) {
```

```
  int ARR_LEN=*length;
  // Sort in ascending order
  sortAscending(arr, ARR_LEN);

  // remove duplicate element in array
  int j=0;
  for (int i = 1; i < ARR_LEN; i++) {
     if (arr[i] != arr[j]) {
        arr[++j] = arr[i];
     }
  }

  // update the length of array
  *length=j+1;
}
```

Step 3. code inside `main.c`

```
#include <stdio.h>
#include "main.h"


int main() {
  int arr[LENGTH];
  // Input array elements
  printf("Enter %d elements of the array:", LENGTH);
  for (int i = 0; i < LENGTH; i++) {
     scanf("%d", &arr[i]);
  }

  // 1. Count even numbers
  int evenCount=countEvenNumbers(arr, LENGTH);
```

```
    printf("Total even numbers in array : %d\n",evenCount);

    // 2. Sort the array in ascending order
    sortAscending(arr, LENGTH);
    printf("Array sorted in ascending order: [ ");
    printArray(arr,LENGTH);
    printf("]\n");

    // 3. Sort the array in descending order
    sortDescending(arr, LENGTH);
    printf("Array sorted in descending order: [ ");
    printArray(arr,LENGTH);
    printf("]\n");

    // 4. Remove duplicates and print the unique array
    int newLength=LENGTH;
    removeDuplicates(arr, &newLength);
    printf("After removing duplicate numbers : [ ");
    printArray(arr,newLength);
    printf("]\n");

    return 0;
}
```

Step 4 . Compiling

```
gcc -Wall -iquote inc -o exec/program src/main.c
```

Step 5. Running the program

./exec/program

Output