1)

```
#include<stdio.h>
int main ( ) {
int size;
printf("enter the size of the array: ");
scanf("%d",&size);
int arr[size];
printf("enter %d elements: \n",size);
for(int i = 0;i<size;i++) {
 scanf("%d",&arr[i]);
   }
 printf("elements in the array are: ");
 for(int i = 0;i<size;i++) {
 printf("%d,",arr[i]);
   }
   return 0;
}
```

Output

```
/tmp/ILkx4woAEs.o
enter the size of the array: 9
enter 9 elements:
1 4 6 8 2 55 23 76 87
elements in the array are: 1,4,6,8,2,55,23,76,87,
```

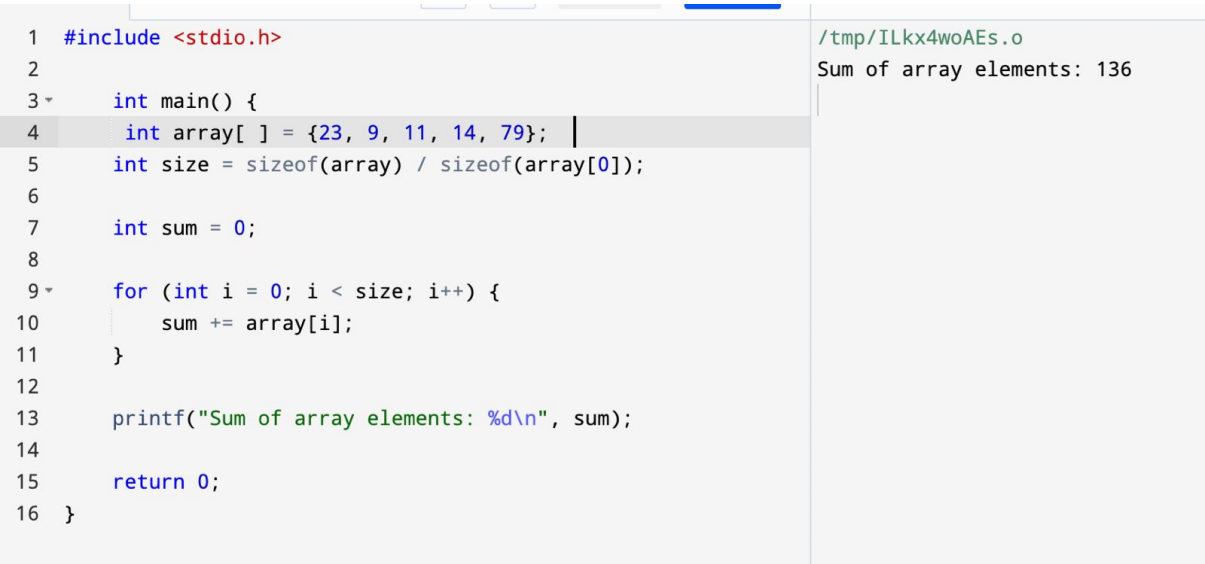
2)

```
#include <stdio.h>


 int main() {
 int n;
 printf("Enter the number of elements: ");
 scanf("%d", &n);
 int arr[n];
 printf("Enter %d elements:\n", n);
 for (int i = 0; i < n; i++) {
 scanf("%d", &arr[i]);
  }
 printf("Elements in reverse order:\n");
 for (int i = n - 1; i >= 0; i--) {
 printf("%d, ", arr[i]);
  }
 return 0;
}
```

```
/tmp/ILkx4woAEs.o
Enter the number of elements: 7
Enter 7 elements:
82 45 37 56 43 12 2
Elements in reverse order:
2 12 43 56 37 45 82
```

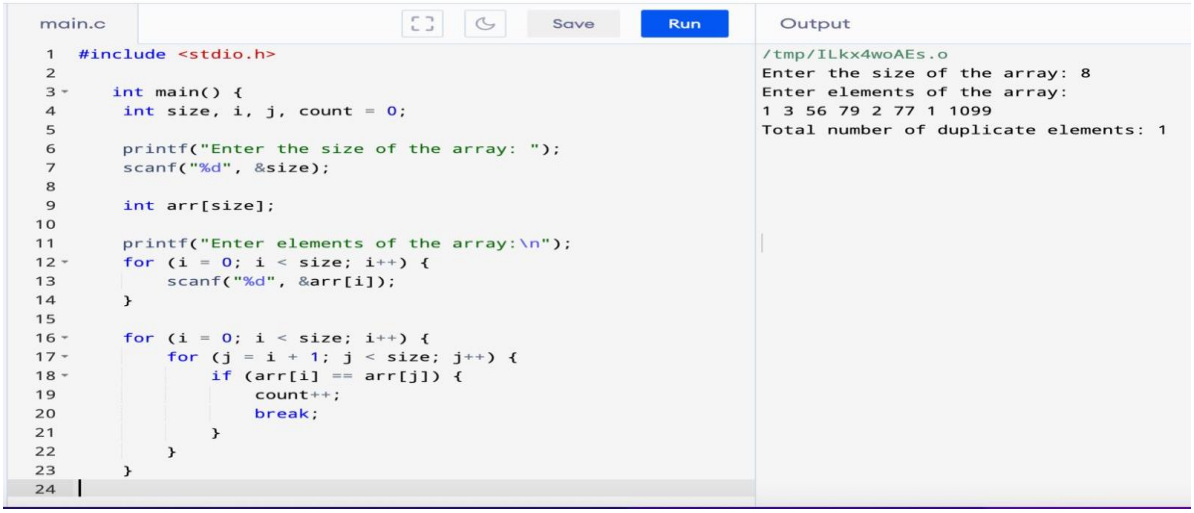
3)

```
#include <stdio.h>

 int main() {

 int array[ ] = {23, 9, 11, 14, 79};

 int size = sizeof(array) / sizeof(array[0]);

 int sum = 0;

 for (int i = 0; i < size; i++) {

 sum += array[i];

   }

printf("Sum of array elements: %d\n", sum);

return 0;

}
```



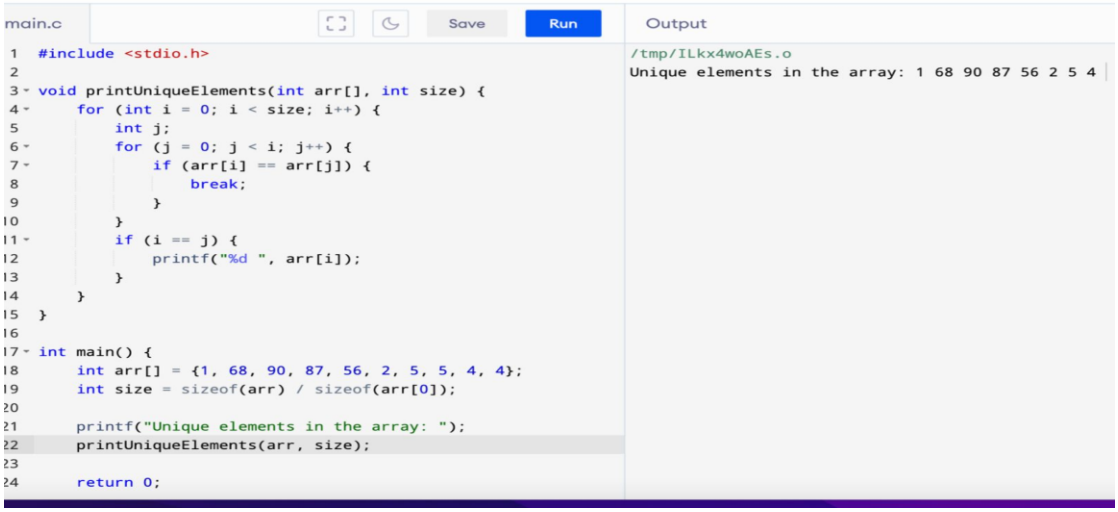
4)

```
#include <stdio.h>

int main() {

  int size, i, j, count = 0;

 printf("Enter the size of the array: ");

  scanf("%d", &size);

  int arr[size];

  printf("Enter elements of the array:\n");

  for (i = 0; i < size; i++) {

  scanf("%d", &arr[i]);

  }

  for (i = 0; i < size; i++) {

     for (j = i + 1; j < size; j++) {

        if (arr[i] == arr[j]) {

           count++;

           break;

        }

     }

  }

  printf("Total number of duplicate elements: %d\n", count);

   return 0;

  }
```



5)

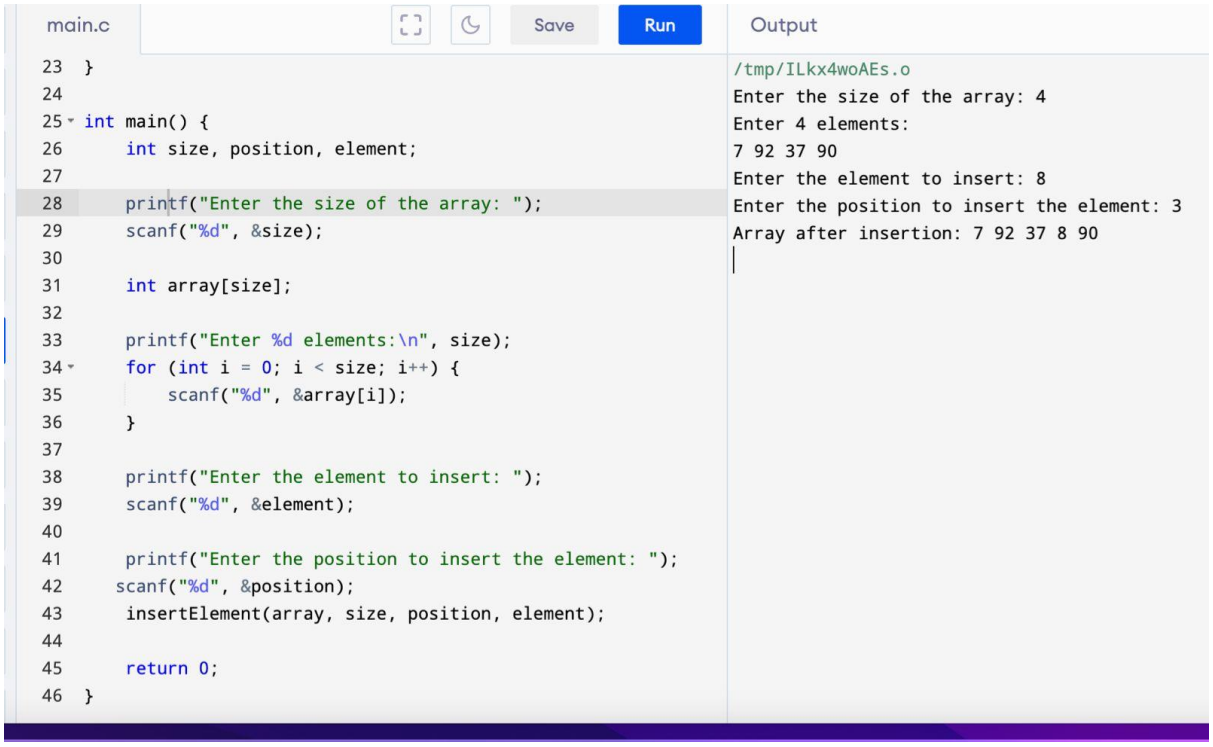
```
#include <stdio.h>

void printUniqueElements(int arr[], int size) {

for (int i = 0; i < size; i++) {

int j;

for (j = 0; j < i; j++) {

if (arr[i] == arr[j]) {

            break;

        }

    }

    if (i == j) {

        printf("%d ", arr[i]);

    }

  }

}

int main() {

int arr[] = {1, 2, 3, 4, 1, 2, 5, 6, 7, 8, 9, 4};

int size = sizeof(arr) / sizeof(arr[0]);

printf("Unique elements in the array: ");

printUniqueElements(arr, size);

return 0;

}
```



6)

```
#include <stdio.h>
void insertElement(int array[ ], int size, int position, int element) {
if (position < 0 || position > size) {
printf("Invalid position. Please choose a position between 0 and %d.\n", size);
return;
}
for (int i = size - 1; i >= position; i--) {
array[i + 1] = array[i];
}
array[position] = element;
size++;
printf("Array after insertion: ");
 for (int i = 0; i < size; i++) {
 printf("%d ", array[i]);
    }
printf("\n");
}
int main() {
int size, position, element;
printtf("Enter the size of the array: ");
scanf("%d", &size);
 int array[size];
 printf("Enter %d elements:\n", size);
 for (int i = 0; i < size; i++) {
 scanf("%d", &array[i]);
 }
 printf("Enter the element to insert: ");
  scanf("%d", &element);
  printf("Enter the position to insert the element: ");
```

```
    scanf("%d", &position);
    insertElement(array, size, position, element);
    return 0;
}
```



7)

```
#include <stdio.h>
void deleteElement(int arr[], int size, int index) {
 if (index < 0 || index >= size) {
 printf("Invalid index\n");
       return;
   }
 for (int i = index; i < size - 1; i++) {
  arr[i] = arr[i + 1];
   }
  size--;
  printf("Element at index %d deleted successfully\n", index);
}
int main() {
int size, index;
printf("Enter the size of the array: ");
scanf("%d", &size);
int arr[size];
printf("Enter the elements of the array:\n");
 for (int i = 0; i < size; i++) {
 scanf("%d", &arr[i]);
 }
 printf("Enter the index to delete an element: ");
 scanf("%d", &index);
 deleteElement(arr, size, index);
  printf("Array after deletion:\n");
  for (int i = 0; i < size - 1; i++) {
  printf("%d ", arr[i]);
   }
return 0;
```

}

```
    int size, index;

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

    int arr[size];

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

    printf("Enter the index to delete an element: ");
    scanf("%d", &index);

    deleteElement(arr, size, index);

    printf("Array after deletion:\n");
    for (int i = 0; i < size - 1; i++) {
        printf("%d ", arr[i]);
    }

    return 0;
}
```

```
/tmp/9eMLIcSBsp.o
Enter the size of the array: 14
Enter the elements of the array:
2 4 3 1 3 4 2 66 7 9 67 42 13 51
Enter the index to delete an element: 7
Element at index 7 deleted successfully
Array after deletion:
2 4 3 1 3 4 2 7 9 67 42 13 51
```