//Answer of 1

#include <stdio.h>

int main() {

int arr[100], unique[100];

int n, i, j, k, is\_duplicate;

// Prompt user to enter size of the array

printf("Enter size of array: ");

scanf("%d", &n);

// Prompt user to enter each element for the given array

printf("Enter each element for the given array: ");

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

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

}

// Remove duplicates from array

k = 0;

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

is\_duplicate = 0;

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

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

is\_duplicate = 1;

break;

}

}

if (!is\_duplicate) {

unique[k] = arr[i];

k++;

}

}

// Print the results

printf("Results: ");

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

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

}

printf("\n");

return 0;

}

//Answer of 2

#include <stdio.h>

#include <stdlib.h>

void swap(int \*x, int \*y) {

int temp = \*x;

\*x = \*y;

\*y = temp;

}

void permute(int \*nums, int l, int r) {

int i;

if (l == r) {

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

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

}

printf(" ");

} else {

for (i = l; i <= r; i++) {

swap((nums+l), (nums+i));

permute(nums, l+1, r);

swap((nums+l), (nums+i)); // backtrack

}

}

}

int main() {

int n, i;

printf("Enter size of array: ");

scanf("%d", &n);

int nums[n];

printf("Enter each element for the given array: ");

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

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

}

printf("All permutations: ");

permute(nums, 0, n-1);

printf("\n");

return 0;

}

//Answer of 3

#include <stdio.h>

int main() {

int n, num = 1, i, j;

printf("Enter the number of lines you want to print: ");

scanf("%d", &n);

for (i = 1; i <= n; i++) {

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

printf("%d ", num);

num++;

}

printf("\n");

}

return 0;

}

//Answer of 4

#include <stdio.h>

#include <string.h>

int main() {

char str1[100], str2[100];

int len1, len2, i, j, freq1[26] = {0}, freq2[26] = {0}, flag = 1;

printf("Enter the first string: ");

scanf("%s", str1);

printf("And second string: ");

scanf("%s", str2);

len1 = strlen(str1);

len2 = strlen(str2);

if (len1 != len2) {

flag = 0;

} else {

for (i = 0; i < len1; i++) {

freq1[str1[i] - 'a']++;

freq2[str2[i] - 'a']++;

}

for (j = 0; j < 26; j++) {

if (freq1[j] != freq2[j]) {

flag = 0;

break;

}

}

}

if (flag) {

printf("Yes\n");

} else {

printf("No\n");

}

return 0;

}

//Answer of 5

#include <stdio.h>

int main() {

int arr[100], freq[100];

int size, i, j, count;

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

scanf("%d", &size);

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

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

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

freq[i] = -1;

}

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

count = 1;

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

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

count++;

freq[j] = 0;

}

}

if (freq[i] != 0) {

freq[i] = count;

}

}

printf("Frequency of all elements in the array: \n");

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

if (freq[i] != 0) {

printf("%d occurs %d times\n", arr[i], freq[i]);

}

}

return 0;

}

//Answer of 6