

EXERCISE-28

AIM: To write a C program to merge two arrays into a third array.

Algorithm:

1. Start.
2. Read the sizes of the two arrays, n1 and n2.
3. Read elements of array A (n1 elements).
4. Read elements of array B (n2 elements).
5. Create array C with size n1 + n2.
6. Copy all elements from A to C.
7. Append all elements from B to C.
8. Display the merged array C.
9. End.

Program Code:

```
#include <stdio.h>

int main() {
    int a[100], b[100], c[200];
    int n1, n2, i, k = 0;
    printf("Enter size of first array: ");
    scanf("%d", &n1);
    printf("Enter elements of first array:\n");
    for (i = 0; i < n1; i++) {
        scanf("%d", &a[i]);
        c[k++] = a[i]; // Copy to merged array
    }
    printf("Enter size of second array: ");
```

```

scanf("%d", &n2);
printf("Enter elements of second array:\n");
for (i = 0; i < n2; i++) {
    scanf("%d", &b[i]);
    c[k++] = b[i]; // Append to merged array
}
printf("Merged array is:\n");
for (i = 0; i < n1 + n2; i++) {
    printf("%d ", c[i]);
}
printf("\n");
return 0;
}

```

Input and Output:

```

Enter size of first array: 3
Enter elements of first array:
1 3 5
Enter size of second array: 3
Enter elements of second array:
2 4 6
Merged array is:
1 3 5 2 4 6

```

Result:

The program successfully merges two arrays into a single array and displays the merged result.

