

3. Implement a C Program to Merge two Arrays

Code

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

```
int main() {
    int a[] = {1, 2, 3};      // First array
    int b[] = {3, 5, 6};      // Second array
    int merged[10];
    int n1 = 3, n2 = 3;
    int i, j, k = 0;

    // Merge first array
    for (i = 0; i < n1; i++) {
        merged[k] = a[i];
        k++;
    }

    // Merge second array
    for (j = 0; j < n2; j++) {
        merged[k] = b[j];
        k++;
    }

    // Display merged array
    printf("First array: ");
    for (i = 0; i < n1; i++)
        printf("%d ", a[i]);
```

```

printf("\nSecond array: ");

for (j = 0; j < n2; j++)

    printf("%d ", b[j]);


printf("\nMerged array: ");

for (i = 0; i < n1 + n2; i++)

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


printf("\n");

return 0;
}

```

Output

```

1 #include <stdio.h>
2
3 int main() {
4     int a[] = {1, 2, 3};      // First array
5     int b[] = {3, 5, 6};      // Second array
6     int merged[10];
7     int n1 = 3, n2 = 3;
8     int i, j, k = 0;
9
10    // Merge first array
11    for (i = 0; i < n1; i++) {
12        merged[k] = a[i];
13        k++;
14    }
15
16    // Merge second array
17    for (j = 0; j < n2; j++) {
18        merged[k] = b[j];
19        k++;
20    }
21
22    // Display merged array
23    printf("First array: ");
24    for (i = 0; i < n1; i++)
25        printf("%d ", a[i]);
26
27    printf("\nSecond array: ");
28    for (j = 0; j < n2; j++)
29        printf("%d ", b[j]);
30
31    printf("\nMerged array: ");
32    for (i = 0; i < n1 + n2; i++)
33        printf("%d ", merged[i]);
34
35    printf("\n");
36
37    return 0;
38 }

```

First array: 1 2 3
Second array: 3 5 6
Merged array: 1 2 3 3 5 6
*** Code Execution Successful ***