# DATE:24.12.23 QUIZ-1

**1.Swapping of two Numbers by**
**a)Call By Value**
**b)Call By Reference**

**CODE:**

**a)Call By Value**

```
#include <stdio.h>

void swapByValue(int a, int b) {
   int temp = a;
   a = b;
   b = temp;
}

int main() {
   int num1, num2;

   printf("Enter two numbers: ");
   scanf("%d %d", &num1, &num2);

   swapByValue(num1, num2);

   printf("After swapping by value: num1 = %d, num2 = %d\n", num1, num2);

   return 0;
}}
```

**b)Call By Reference**

```
#include <stdio.h>

void swapByReference(int *a, int *b) {

    int temp = *a;

   *a = *b;

    *b = temp;

}int main() {

    int num1, num2;

    printf("Enter two numbers: ");

    scanf("%d %d", &num1, &num2);
```

```
    swapByReference(&num1, &num2);

    printf("After swapping by reference: num1 = %d, num2 = %d\n", num1, num2);

    return 0;

}
```

**2.Find duplicates in an array**

**PROGRAM CODE:**

```
#include <stdio.h>

void findDuplicates(int arr[], int n) {
    int i, j;
    int found = 0;

    printf("Duplicates in the array: ");

    for (i = 0; i < n; i++) {
        for (j = i + 1; j < n; j++) {
            if (arr[i] == arr[j]) {
                printf("%d ", arr[i]);
                found = 1;
            }
        }
    }

    if (!found) {
        printf("-1");
    }

    printf("\n");
}

int main() {
    int N;

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

    int a[N];

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

    findDuplicates(a, N);

    return 0;
}
```

**3.Union of Two Sorted Arrays**

**PROGRAM CODE:**

```
#include <stdio.h>

void findUnion(int arr1[], int n, int arr2[], int m) {
    int i = 0, j = 0;

    printf("Union of the two arrays: ");

    while (i < n && j < m) {
        if (arr1[i] < arr2[j]) {
            printf("%d ", arr1[i++]);
        } else if (arr2[j] < arr1[i]) {
            printf("%d ", arr2[j++]);
        } else {
            printf("%d ", arr1[i++]);
            j++;
        }    }
    while (i < n) {
        printf("%d ", arr1[i++]);
    }
    while (j < m) {
        printf("%d ", arr2[j++]);
    }
    printf("\n");
}

int main() {
    int n, m;

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

    int arr1[n];

    printf("Enter elements of the first array (sorted): ");
    for (int i = 0; i < n; i++) {
        scanf("%d", &arr1[i]);
    }

    printf("Enter the size of the second array: ");
    scanf("%d", &m);
   int arr2[m];

    printf("Enter elements of the second array (sorted): ");
    for (int i = 0; i < m; i++) {
        scanf("%d", &arr2[i]);
    }

    findUnion(arr1, n, arr2, m);

    return 0;
```