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DAA LAB

.....ASSIGNMENT-1.....

Code:

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

void bubbleSort(int arr[], int size)
{
   for (int i = 0; i < size - 1; i++)
   {
      for (int j = 0; j < size - i - 1; j++)
      {
         if (arr[j] > arr[j + 1])
         {
            int temp = arr[j];
            arr[j] = arr[j + 1];
            arr[j + 1] = temp;
         }
      }
   }
}

void mergeArrays(int arr1[], int arr2[], int n1, int n2, int arr3[])
{
   int i = 0, j = 0, k = 0;
   while (i < n1 && j < n2)
   {
      if (arr1[i] < arr2[j])
         arr3[k++] = arr1[i++];
      else
         arr3[k++] = arr2[j++];
   }
   while (i < n1)
      arr3[k++] = arr1[i++];
   while (j < n2)
      arr3[k++] = arr2[j++];
}

int main()
{
   int arr1[20], arr2[20], arr3[100], arr4[100];
   int n1 = 0, n2 = 0, n3 = 0, n4 = 0;

   FILE *panel1 = fopen("panel1.txt", "r");
```

```
while (fscanf(panel1, "%d", &arr1[n1]) != EOF)
{
   n1++;
}
fclose(panel1);
bubbleSort(arr1, n1);

FILE *panel2 = fopen("panel2.txt", "r");
while (fscanf(panel2, "%d", &arr2[n2]) != EOF)
{
   n2++;
}
fclose(panel2);
bubbleSort(arr2, n2);

FILE *panel3 = fopen("panel3.txt", "r");
while (fscanf(panel3, "%d", &arr3[n3]) != EOF)
{
   n3++;
}
fclose(panel3);
bubbleSort(arr3, n3);

FILE *panel4 = fopen("panel4.txt", "r");
while (fscanf(panel4, "%d", &arr4[n4]) != EOF)
{
   n4++;
}
fclose(panel4);
bubbleSort(arr4, n4);

int a1[200], a2[200], a3[400], result[10];
mergeArrays(arr1, arr2, n1, n2, a1);
mergeArrays(arr3, arr4, n3, n4, a2);
mergeArrays(a1, a2, (n1 + n2), (n3 + n4), a3);

int Size = n1 + n2 + n3 + n4;
int c = 0;
for (int i = 0; i < Size; i++)
{
   int k = 0;
   for (int j = 0; j < Size; j++)
   {
      if ((j >= i) && a3[j] == a3[i])
      {
         k++;
      }
   }
   if (k >= 3 && (a3[i - 1] != a3[i] && (a3[i - 2] != a3[i]) && (a3[i - 3] != a3[i])))
   {
      result[c++] = a3[i];
   }
}

printf("%d students are selected having roll no.s", c);
for (int i = 0; i < c; i++)
{
```

```
        printf(" %d", result[i]);
    }
    printf(".\n");

    return 0;
}
```

……..

FILE INPUT:
Panel1.txt :->2 5 1 9 6
Panel2.txt :->2 4 7 9 1
Panel3.txt :->2 9 1 4 8
Panel4.txt :->6 8 1 2 4

OUTPUT: