

FAIZAN CHOUDHARY

20BCS021

PROGRAMMING LAB

22nd November 2021

CODE: (code pasted in this format for readability)

```
#include <stdio.h>

// #define min(x,y) (x<y ? x : y)

void min_sum_of_max_subarray (int arr[], int n)
{
    int sum = __INT16_MAX__;
    int s = 0, e = 0;
    for(int i = 0; i<n; i++)
    {
        for(int j = i; j<n; j++)
        {
            int pref_sum = 0;
            for(int k = i; k<=j; k++)
                pref_sum += arr[k];
            if(pref_sum < sum)
            {
                sum = pref_sum;
                s = i;
                e = j;
            }
            else if(pref_sum == sum && (j - i) > (e - s))
            {
                s = i;
                e = j;
            }
        }
    }

    printf("\nThe minimum sum of the largest subarray is: \n");
    for (int i=s; i<=e; i++)
        printf("%d ", arr[i]);
    printf("\n = %d\n", sum);
}

int main()
{
    printf("\nFAIZAN CHOUDHARY\n20BCS021\n\n");

    int n;
```

```

char ch;
do
{

    printf("\nEnter the size of the array: ");
    scanf("%d", &n);
    int arr[n];

    printf("\nEnter the array elements: ");
    for (int i=0; i<n; i++)
        scanf("%d", &arr[i]);

    min_sum_of_max_subarray(arr,n);

    printf("\nDo you want to enter again? (y/n): ");
    getchar();
    scanf("%c", &ch);
} while (ch == 'y' || ch == 'Y');
return 0;
}

```

OUTPUT:

FAIZAN CHOUDHARY
20BCS021

Enter the size of the array: 7

Enter the array elements: 5 -3 1 -5 -1 7 -5

The minimum sum of the largest subarray is:
-3 1 -5 -1 = -8

Do you want to enter again? (y/n): y

Enter the size of the array: 6

Enter the array elements: -5 -3 3 -4 -2 -2

The minimum sum of the largest subarray is:
-5 -3 3 -4 -2 -2 = -13

Do you want to enter again? (y/n): y

Enter the size of the array: 5

Enter the array elements: 5 7 3 1 4

The minimum sum of the largest subarray is:
1 = 1

Do you want to enter again? (y/n): y

Enter the size of the array: 6

Enter the array elements: -5 -3 13 -4 -2 -2

The minimum sum of the largest subarray is:
-4 -2 -2 = -8

Do you want to enter again? (y/n): n