

Q3.2

Below code segment takes a one dimensional array and the array size as input and returns the maximum of the sums of its subarrays.

```
int maxSubArraySum(int a[], int size)
{
    int max_so_far = 0, max_ending_here = 0;
    for (int i = 0; i < size; i++)
    {
        max_ending_here = max_ending_here + a[i];
        if (max_ending_here < 0)
            max_ending_here = 0;
        else if (max_so_far < max_ending_here)
            max_so_far = max_ending_here;
    }
    return max_so_far;
}
```

I decided to give $a[] = \{1,1,1,1,0,0,2,2,2,1\}$ and $size = 10$ as the input.

Code segment is taken from:

Swiss Federal Institute of Technology in Zurich

VerifyThis – Competition, Uppsala 2017

<https://ethz.ch/content/dam/ethz/special-interest/infk/chair-program-method/pm/documents/Verify%20This/challenge2.pdf>