PartitionSum.java

```
1   package com.example;
2
3   public class PartitionSum {
4       public int maxSumAfterPartitioning1(int[] arr, int k) {
5           int N = arr.length;
6           int []dp =new int[N];
7   3       for(int i=0;i<N;i++){
8               dp[i] = -1;
9           }
10  1       return partitionsum(0, N ,arr,k,dp);
11      }
12      int partitionsum(int ind, int N, int []arr,int k,int[]dp){
13  1       if(ind == N){
14              return 0;
15          }
16  1       if(dp[ind] != -1){
17  1           return dp[ind];
18          }
19          int maxi = -(int)1e7;
20          int len=0;
21          int maxSum = -(int)1e7;
22  4       for(int j=ind;j<Math.min(N, ind+k);j++){
23  1           len++;
24              maxi = Math.max(arr[j],maxi);
25  3           int sum = (len*maxi) + partitionsum(j+1,N,arr,k,dp);
26              maxSum = Math.max(sum,maxSum);
27          }
28          dp[ind] = maxSum;
29  1       return dp[ind];
30      }
31
32      public int maxSumAfterPartitioning2(int[] arr, int k) {
33          int N = arr.length;
34  1       int []dp =new int[N+1];
35  4       for(int i=0;i<N+1;i++){
36              dp[i] = 0;
37          }
38  4       for(int ind = N-1;ind>=0;ind--){
39              int maxi = -(int)1e7;
40              int len=0;
41              int maxSum = -(int)1e7;
42  4           for(int j=ind;j<Math.min(N, ind+k);j++){
43  1               len++;
44                  maxi = Math.max(arr[j],maxi);
45  3               int sum = (len*maxi) + dp[j+1];
46                  maxSum = Math.max(sum,maxSum);
47              }
48              dp[ind] = maxSum;
49          }
50  1       return dp[0];
51      }
52  }
```

Mutations

7	1. changed conditional boundary → KILLED 2. Changed increment from 1 to -1 → KILLED 3. negated conditional → KILLED
10	1. replaced int return with 0 for com/example/PartitionSum::maxSumAfterPartitioning1 → KILLED
13	1. negated conditional → KILLED
16	1. negated conditional → KILLED
17	1. replaced int return with 0 for com/example/PartitionSum::partitionsum → KILLED
22	1. changed conditional boundary → KILLED 2. Changed increment from 1 to -1 → KILLED 3. Replaced integer addition with subtraction → KILLED 4. negated conditional → KILLED
23	1. Changed increment from 1 to -1 → KILLED
25	1. Replaced integer multiplication with division → KILLED 2. Replaced integer addition with subtraction → KILLED 3. Replaced integer addition with subtraction → KILLED
29	1. replaced int return with 0 for com/example/PartitionSum::partitionsum → KILLED
34	1. Replaced integer addition with subtraction → KILLED
35	1. changed conditional boundary → KILLED 2. Changed increment from 1 to -1 → KILLED 3. Replaced integer addition with subtraction → SURVIVED 4. negated conditional → SURVIVED
38	1. changed conditional boundary → KILLED 2. Changed increment from -1 to 1 → KILLED 3. Replaced integer subtraction with addition → KILLED 4. negated conditional → KILLED
42	1. changed conditional boundary → KILLED 2. Changed increment from 1 to -1 → KILLED 3. Replaced integer addition with subtraction → KILLED 4. negated conditional → KILLED
43	1. Changed increment from 1 to -1 → KILLED
45	1. Replaced integer multiplication with division → KILLED 2. Replaced integer addition with subtraction → KILLED 3. Replaced integer addition with subtraction → KILLED
50	1. replaced int return with 0 for com/example/PartitionSum::maxSumAfterPartitioning2 → KILLED

Active mutators

- BOOLEAN_FALSE_RETURN
- BOOLEAN_TRUE_RETURN
- CONDITIONALS_BOUNDARY_MUTATOR
- EMPTY_RETURN_VALUES
- INCREMENTS_MUTATOR
- INVERT_NEGS_MUTATOR
- MATH_MUTATOR
- NEGATE_CONDITIONALS_MUTATOR
- NULL_RETURN_VALUES
- PRIMITIVE_RETURN_VALS_MUTATOR
- VOID_METHOD_CALL_MUTATOR

Tests examined

- com.example.PartitionSumTest.testMaxSumAfterPartitioning5(com.example.PartitionSumTest) (1 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning8(com.example.PartitionSumTest) (1 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning3(com.example.PartitionSumTest) (0 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning2(com.example.PartitionSumTest) (1 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning7(com.example.PartitionSumTest) (0 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning9(com.example.PartitionSumTest) (0 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning6(com.example.PartitionSumTest) (0 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning1(com.example.PartitionSumTest)

(1 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning10(com.example.PartitionSumTest) (1 ms)
- com.example.PartitionSumTest.testMaxSumAfterPartitioning4(com.example.PartitionSumTest) (0 ms)

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