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My code on Dynamic programing

```java
public class CoinChange {

    private static long countCoin(int[] coin ,int m ,int n){
        long[] table = new long[n+1];
        table[0] = 1;

        for(int i=0;i<m;i++){
            for(int j=coin[i];j <= n ; j++){
                table[j] += table[j-coin[i]];
            }
        }

        return table[n];
    }

    public static void main(String[] args) {
        int[] coin = {1,2,5,10};
        int n = 12;
        System.out.println(countCoin(coin, coin.length,n));
    }
}
```

I use overlapping approach to do this problem by

1 table is just like a note that remember all the value that exchange the coin

2 given all the default value to table and the default value is 1 with is only 1 way to exchange the coin

3 the loop run though all coin and it sum up the default value and update value

The visualize for this problem will be right this

coin	1	2	5	10
n	12			
j	table	table	table	table
0	1	1	1	1
1	1	1	1	1
2	1	1	1	1
3	1	2	2	2
4	1	2	2	2
5	1	3	3	3
6	1	3	4	4
7	1	4	5	5
8	1	4	6	6
9	1	5	7	7
10	1	5	8	8
11	1	6	10	11
12	1	6	11	12
13	1	7	13	15

Select coin "1"

table 1 will be

[1,1,1,1,1,1,1,1,1,1,1,1,1]

Select coin "2"

table 1 will be

[1,1,2,2,3,3,4,4,5,5,6,6,7]

Select coin "5"

table 1 will be

[1,1,1,2,2,3,4,5,6,7,8,10,11,13]

Select coin "10"

table 1 will be

[1,1,1,2,2,3,4,5,6,7,8,11,12,15]