

Ways to get to 200

All the possible ways to get to 200 using the pound sterling coins.

I understand that I have to use partition functions.

Find all the ways to get to 200 via all the ways to get to 100, 50, 20, 5, 2, 1

The way to get to 1:

1

The way to get to 2:

1+1

2

The way to get to 3:

1+1+1

2+1

The way to get to 4:

1+1+1+1

1+1+2

1+3

2+2

The way to get to 5:

1+1+1+1+1

1+1+1+2

1+1+3

1+2+2

There is definitely a pattern related how to get the max of the next number, because it is a function of the previous number, $n + 1$