dp[i] [j] : Using the items from 0-i, Cost is j, what is the
max. number.

Transition   equation

$$dp[i][j] = max(dp[i-1][j], dp[i][j-cost[i]] + value[i])$$

don't choose this item   choose one of this item

Example

Cost: 4, 3, 2, 5, 6, 7, 2, 5, 5   target: 9

Digit	Cost	
9	5	
7	2	
6	7	mp
5	6	
2	3	
1	4	

dp [7] [10]

target =	0	1	2	3	4	5	6	7	8	9
i=0	""	#	#	#	#	#	#	#	#	#
i=1 d=1 c=4	""	#	#	#	1	#	#	#	||	#
i=2 d=2 c=3	""	#	#	2	1	#	22	21	||	222
i=3 d=5 c=6	""	#	#	2	1	#	22	21	||	222
i=4 d=6 c=7	""	#	#	2	1	#	22	21	||	222
i=5 d=7 c=2	""	#	7	2	77	72	777	772	7777	7772
i=6 d=9 c=5	""	#	7	2	77	72	777	772	7777	7772

$it = (1,4),\ i = 0+1 = 1,\ digit = 1,\ c = 4$

$j=0,\ a = "",\ 0-4 < 0 \Rightarrow dp[1][0] = ""$

$j=1,\ a = "\#",\ 1-4 < 0 \Rightarrow dp[1][1] = "\#"$

$j=2,\ a = "\#",\ 2-4 < 0. \Rightarrow dp[1][2] = "\#"$

$j=3,\ a = "\#",\ 3-4 < 0 \Rightarrow dp[1][3] = "\#"$

$j=4,\ a = "\#",\ 4-4 = 0,\ dp[1][0] = "" \Rightarrow b = "1" + "" = "1"$

$\therefore dp[1][4] = "1"$

$j=5,\ a = "\#",\ 5-4 > 0,\ dp[1][1] = "\#" \Rightarrow dp[1][5] = "\#"$

$j=6,\ a = \#,\ 6-4 > 0,\ dp[1][2] = \# \Rightarrow dp[1][6] = \#$

j=7, a= #, 7-4 >0, dp[1][3] = # ⇒ dp[1][7] = #

j=8, a= #, 8-4>0, dp[1][4] = "1" ⇒ b = "1" + "1" = "11"

    ∴ dp[1][8] = "11"

j=9, a=#, 9-4 >0, dp[1][5] = # ⇒ dp[1][9] = #

it=(2,3), i=1+1 = 2, digit=2, c=3

j=0, a=" ", 0-3<0, dp[2][0] = " "

j=1, a= #, 1-3<0, dp[2,1] = #

j=2, a=#, 2-3<0, dp[2,2] = #

j=3, a= #, 3-3=0, dp[2,0] = " " ∴ b = "2"

    ∴ dp[2,3] = "2"

j=4, a="1", 4-3>0, dp[2,1] = # , ⇒ dp[2][4] = "1"

j=5, a= #, 5-3 >0, dp[2,2] = # ⇒ dp[2][5] = #

j=6, a= #, 6-3>0, dp[2,3] = 2, b = "22"

    ∴ dp[2][6] = "22"

j=7, a= #, 7-3>0, dp[2,4] = 1, b = "21", dp[2][7]= "21"

j= 8, a=11, 8-3>0, dp[2,5] = #, dp[2][8] = 11

$j = 9$, $a = \#$, $9 - 3 > 0$, $dp[2, 6] = 22$, $b = "222"$, $dp[2][9] = "222"$