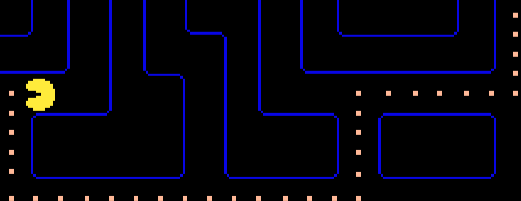
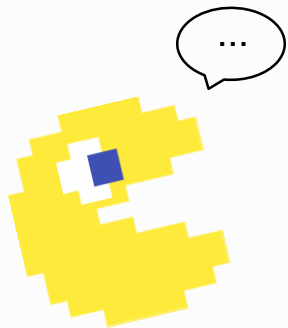


LEVEL 1










Pacman: Now I want to get the highscore.

Your task: Find the highest possible score within the time limit.



- 
- 
- 
- 
- 
- Each coin will now grant a different amount of points. The coins do not disappear after they have been collected, so they can be collected multiple times and will grant points for each time they have been collected. Pacmans score will be calculated by adding up all the points of the coins he has collected in total.
 - The ghosts have now changed their movement patterns. When the game starts they will calculate their shortest path to Pacmans initial position (if there are multiple shortest paths, take the path that would come first when sorted by alphabet), and then always go back and forth between their initial position and Pacmans initial position.
 - **Find out the highest possible score on the given board that can be reached with a sequence that is exactly as long as the maximum movement sequence length.**





	Input	Output
Format	<code>N</code> <code>boardMatrix</code> <code>pacmanRow</code> <code>pacmanColumn</code> <code>numberOfGhosts</code> <code>ghostRow</code> <code>ghostColumn</code> (the above line is repeated <code>numberOfGhosts</code> times) <code>numberOfCoins</code> <code>coinRow</code> <code>coinColumn</code> <code>coinValue</code> (the above line is repeated <code>numberOfCoins</code> times) <code>maxMovementSequenceLength</code>	<code>highScore</code>
Types	<code>N</code> (int): the number of rows and columns of the board (range: 1 - 100) <code>boardMatrix</code> (StringList): N strings with the length of N <code>pacmanRow</code> (int): the row that Pacman is in (starting with 1) <code>pacmanColumn</code> (int): the column that Pacman is in (starting with 1) <code>numberOfGhosts</code> (int): the number of ghosts <code>ghostRow</code> (int): the row that the ghost is in (starting with 1) <code>ghostColumn</code> (int): the column that the ghost is in (starting with 1) <code>numberOfCoins</code> (int): the number of coins <code>coinRow</code> (int): the row that the coin is in <code>coinColumn</code> (int): the column that the coin is in <code>coinValue</code> (int): the amount of points that Pacman gets for collecting this coin (between 1 and 100) <code>maxMovementSequenceLength</code> (int): the maximum amount of steps that Pacman can take	<code>highScore</code> (int): the highest score that is possible within the time limit on the given board





Input

Output

Example

```
10
WWWWWWWWWW
WCECECECCW
WCWGWWEWEW
WCWEWEEEEEW
WEWEWEWEWEW
WCECCEEEECW
WGWWWWWWWCW
WPWWWWWEWEW
WECEEEEEEW
WWWWWWWWWW
8 2
2
7 2
3 4
14
2 2 15
2 4 17
2 6 83
2 8 68
2 9 42
3 2 74
4 2 1
6 2 88
6 4 53
6 5 18
6 9 24
7 9 94
9 3 14
9 7 15
10
```

440

One of the paths to generate that highscore would be: 'UUDUDUDUDU'

GOOD LUCK

