**Context**

G-Man is a video game in which G-Man has to move from one point to another on a grid (6 X 6 grid). There could be multiple paths between a source coordinate and destination coordinate and G-Man needs to reach the destination by spending least amount of power.

**Position**

* G-Man’s position is located by the x, y coordinate of the grid.
* One of the four compass points N, E, S and W indicates the direction G-Man is facing. Eg: 2, 1 N means the G-Man is at 2 on the x coordinate, 1 on the y coordinate, and facing North.

Chart, line chart, box and whisker chart

Description automatically generated

## Moves

At the start of the game, G-Man is given a power of 200 units. His power is reduced for every move and turn he takes.

* G-Man can turn left or right 90 degrees at a time to change his direction.
* For every turn G-Man makes, his power is reduced by 5.
* For every move that G-Man makes by 1 grid point, his power is reduced by 10.
  + eg: If G-Man moves from 2, 1 E to the destination 4, 1 he loses 20 power points.
  + eg: If G-Man moves from 2, 1 S to 4, 5; he has to turn twice and move 6 grid points. So he loses 70 power points.

**Goal**

* Given the source and destination coordinates, G-Man needs to reach the destination by spending least amount of power. And you need to print the remaining power he has after taking the shortest path with minimum number of turns.

**Assumptions**

* The grid is 6 X 6. All coordinates will have values between 0 - 6.
* Direction value can either be N, E, W or S.
* There could be multiple paths from source to destination.
* G-Man will spend the least amount of power to reach the destination.
* All the destination paths will be on the grid.
* Only the final coordinates of the destination need to be considered. There is no need to consider the direction of the destination.

**Input Commands & Format**

Your program should take as input the source coordinates, direction and destination coordinates.

**SOURCE**X\_COORDINATE Y\_COORDINATE DIRECTION

**DESTINATION**X\_COORDINATE Y\_COORDINATE

**PRINT\_POWER**

**Output Commands & Format**

The output should be remaining power G-Man has after taking the shortest path.

**POWER**REMAINING\_POWER\_QUANTITY

\*Aim to get readability and Input/Output