

Player is at (0,0). Forward direction/pdx/pdy set according to Player Angle (see pdx pdy diagram)

Note: when moving sideways, px is +- pdy and py is +- pdx as the player is moving perpendicular to the player angle

Note: +ve or -ve values of px and py are in relation to the forward direction not the axes on the graph

$px = 0$        $py = 0$

$pdx = 10$      $pdy = 6$

Leftward Direction (A)

$px = px - pdy = 0 - 6 = -6$

$py = py - pdx = 0 - 10 = -10$

A = (-6, -10)

Forward Direction (W)

$px = px + pdx = 0 + 10 = 10$

$py = py + pdy = 0 + 6 = 6$

W = (10, 6)

S = (-10, -6)

Backward Direction (S)

$px = px - pdx = 0 - 10 = -10$

$py = py - pdy = 0 - 6 = -6$

Rightward Direction (D)

$px = px + pdy = 0 + 6 = 6$

$py = py + pdx = 0 + 10 = 10$

D = (6, 10)