```
% relative height for each pole from rabbit robot
y_p = [1.5180, 0.8180, 0.8180, 0.4180, 0.4180, 0.4180, 0.8180, 0.8180, 0.4180,
 0.4180, 0.4180];
% relative distance for each pole from rabbit robot
x_p = [4.95, 3.76, 3.76, 1.55, 3.73, 3.73, 6.38, 6.38, 8.15, 8.39, 8.39];
% radius of rollers
r = 0.0375;
% diffrence between angle required in radians
theta = 0.261799;
% angle of projection in degrees
angle = 45;
% gravitational acceleration
g = 9.8;
w1 = [];
w2 = [];
for i = 1:11;
    y_p(i) = y_p(i);
    x = x_p(i);
    y = y_p(i);
    v = sqrt((g*(x^2))/(2*(cosd(angle)^2)*((x(tand(angle))-y))));
    W1 = (v/r) + ((v*cosd(angle)*(theta))/x);
    W2 = (v/r) - ((v*cosd(angle)*(theta))/x);
    w1(end+1) = W1*9.55;
    w2(end+1) = W2*9.55;
end
T = table(x_p',y_p',w1',w2','VariableNames',{'X','Y','W_1','W_2'}, ...
    'RowNames',{'type 3 pole','type 2 right pole','type 2 left pole', ...
    'type 1 center pole','type 1 right pole','type 1 left pole', ...
    'opponent type 2 right pole','opponent type 2 left pole', ...
    'opponent type 1 center pole','opponent type 1 right pole', ...
    'opponent type 1 left pole'} )
```

T =

11×4 table

	X	Y	W_1	W_2
type 3 pole	4.95	1.518	2133.2	2127.2
type 2 right pole	3.76	0.818	1750.9	1744.4
type 2 left pole	3.76	0.818	1750.9	1744.4
type 1 center pole	1.55	0.418	1166.6	1156.2
type 1 right pole	3.73	0.418	1637	1630.9
type 1 left pole	3.73	0.418	1637	1630.9
opponent type 2 right pole	6.38	0.818	2159	2154.4
opponent type 2 left pole	6.38	0.818	2159	2154.4
opponent type 1 center pole	8.15	0.418	2338.7	2334.7
opponent type 1 right pole	8.39	0.418	2371	2367
opponent type 1 left pole	8.39	0.418	2371	2367

Published with MATLAB® R2022b