

## HW9 CODE OUTPUT

### CASE 1:

Initial condition:  $[0 \ 5]'$ .

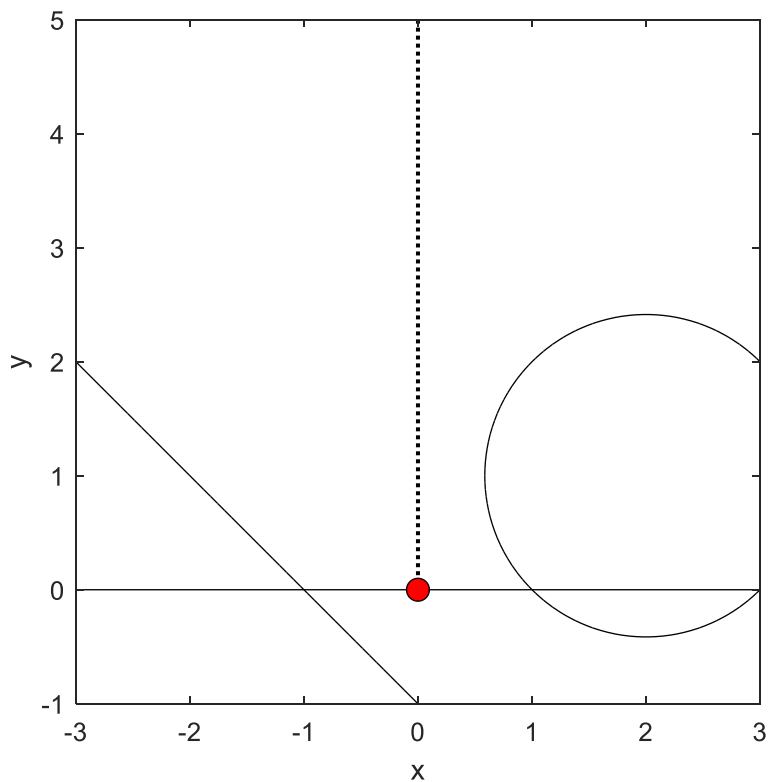
Event triggered for {} at time  $t = 1.0102$  s.

New Contact Found as: Mode

1

Transition to contact mode {1} at time  $t = 1.0102$  s.

The particle has come to a rest.



### CASE 2:

Initial condition:  $[-1.5 \ 5]'$ .

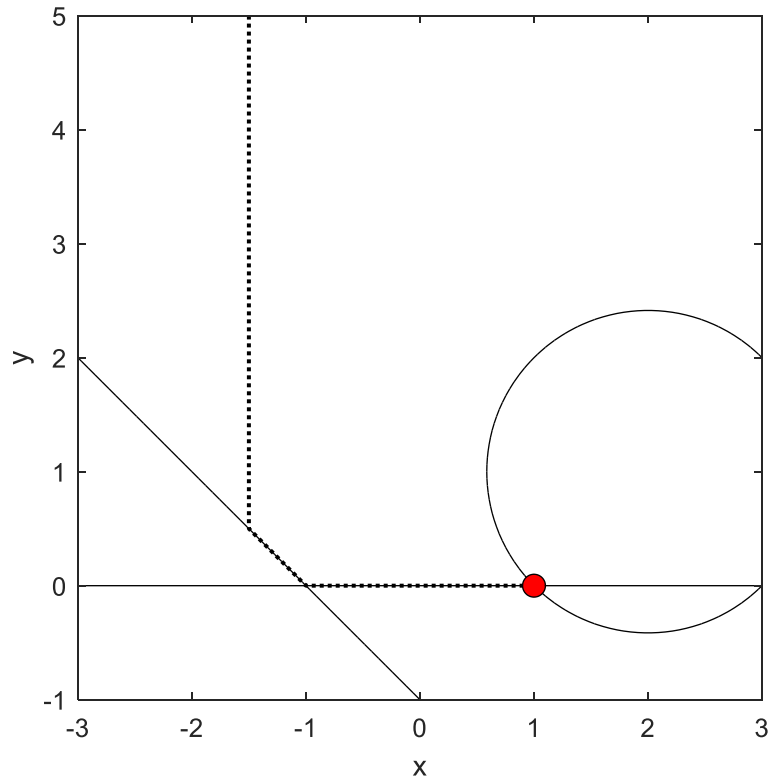
Event triggered for {} at time  $t = 0.95831$  s.

Transition to contact mode {2} at time  $t = 0.95831$  s.

Event triggered for {2} at time  $t = 1.0595$  s.

Transition to contact mode {1} at time  $t = 1.0595$  s.

Event triggered for {1} at time  $t = 1.4447$  s.



**CASE 3:**

Initial condition:  $[1.5 \quad 5]^T$ .

Event triggered for {} at time  $t = 0.73916$  s.

Transition to contact mode {3} at time  $t = 0.73916$  s.

Event triggered for {3} at time  $t = 0.74822$  s.

Transition to contact mode {} at time  $t = 0.74822$  s.

Event triggered for {} at time  $t = 0.78324$  s.

Transition to contact mode {3} at time  $t = 0.78324$  s.

Event triggered for {3} at time  $t = 0.80975$  s.

New Contact Mode found as:

Transition to contact mode {} at time  $t = 0.80975$  s.

Event triggered for {} at time  $t = 1.3784$  s.

Transition to contact mode {1} at time  $t = 1.3784$  s.

Event triggered for {1} at time  $t = 1.7036$  s.

Transition to contact mode {2} at time  $t = 1.7036$  s.

Event triggered for {2} at time  $t = 1.7036$  s.

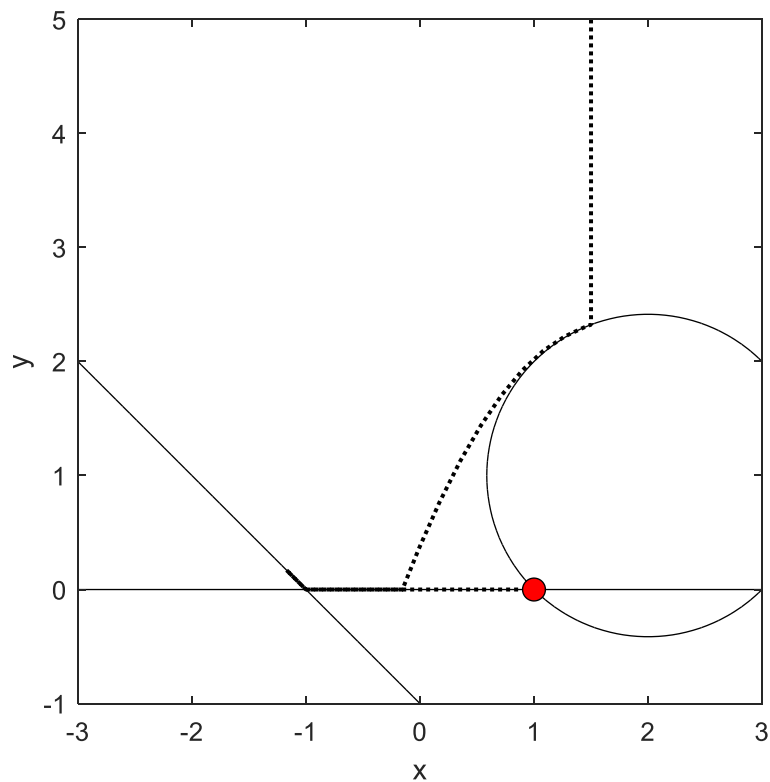
Transition to contact mode {2} at time  $t = 1.7036$  s.

Event triggered for {2} at time  $t = 2.2346$  s.

Transition to contact mode {1} at time  $t = 2.2346$  s.

Event triggered for {1} at time  $t = 3.7719$  s.

Final time reached



#### **CASE 4:**

Initial condition:  $[1 \ 5]^T$ .

Event triggered for {} at time  $t = 0.78246$  s.

Transition to contact mode {3} at time  $t = 0.78246$  s.

Event triggered for {3} at time  $t = 0.81131$  s.

Transition to contact mode {} at time  $t = 0.81131$  s.

Event triggered for {} at time  $t = 1.1515$  s.

Transition to contact mode {1} at time  $t = 1.1515$  s.

Event triggered for {1} at time  $t = 1.272$  s.

Transition to contact mode {2} at time  $t = 1.272$  s.

Event triggered for {2} at time  $t = 1.272$  s.

Transition to contact mode {2} at time  $t = 1.272$  s.

Event triggered for {2} at time  $t = 2.1073$  s.

Transition to contact mode {1} at time  $t = 2.1073$  s.

Event triggered for {1} at time  $t = 3.0846$  s.

Final time reached

