

Return

Write a code that makes your robot moves to his usual starting position (at avenue 1, street 1, facing east), no matter where robot is located at.

Initialize your robot with random starting position & direction:

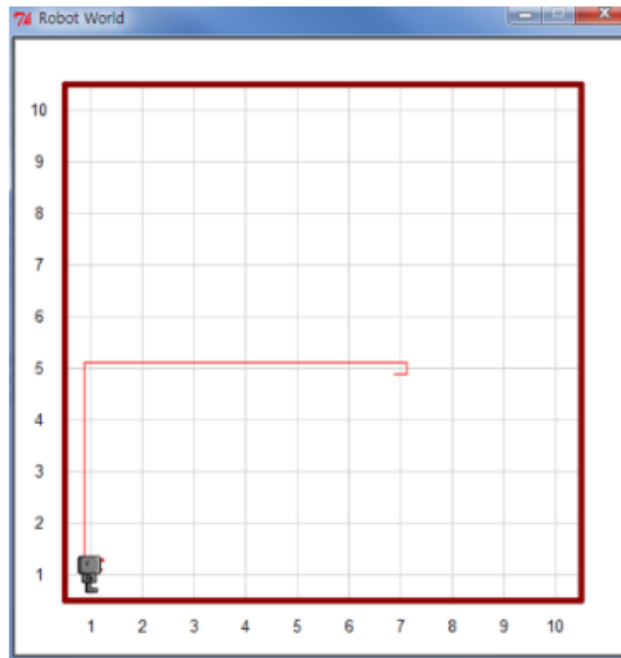
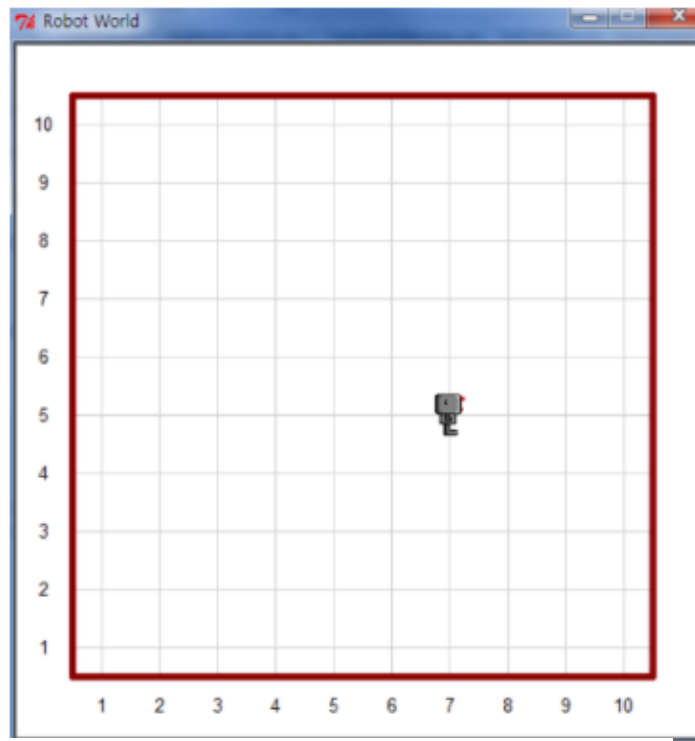
```
my_robot = Robot(orientation='W', avenue=7, st
```

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Use robot's `facing_north()` function to check if the robot is currently facing north or not.

```
my_robot.facing_north()
```

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Task 1

Trash1

Use your robot to collect trash(beeppers). Put them in the trash can.

Use `carries_beeppers()` function of your robot to dump all trash.

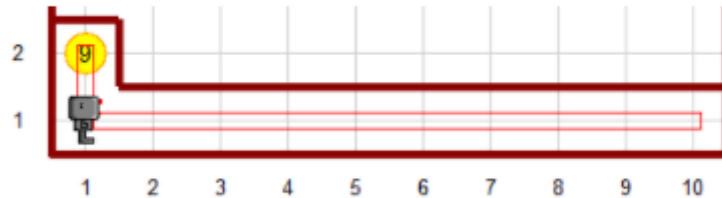
```
my_robot.carries_beeppers()
```

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Your code must work for world files below:

- 'trash1.wld'
- 'trash2.wld'

Expected result



Task 2

- Given code

```
trash1.py ×  
  
from cs1robots import *  
~  
# Your code must work for all world files below.  
load_world("worlds/trash1.wld")  
# load_world("worlds/trash2.wld")  
~
```

Trash2

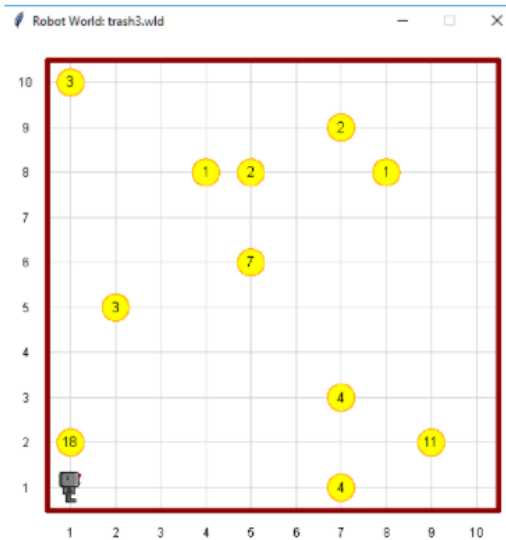
Make your robot collect all the trash(beeppers) in the backyard of the house and bring them back to the starting position.

Your code must work for both of the worlds below:

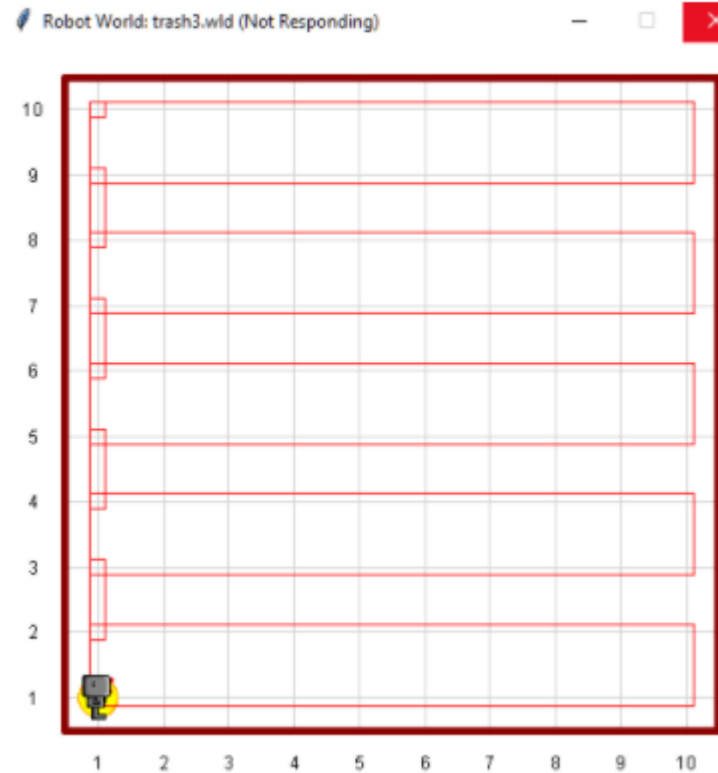
- 'trash3.wld'
- 'trash4.wld'

Your code must work for backyards with various sizes and trash lying around with various patterns.

Before



After



Task 3

- Given

```
trash2.py
1 from cs1robots import *
2 ~
3 # Your code must work with any of the world files below.
4 load_world('worlds/trash3.wld')
5 # load_world('worlds/trash4.wld')
```

Task 4

Rain

Help your robot close all the windows in the house.

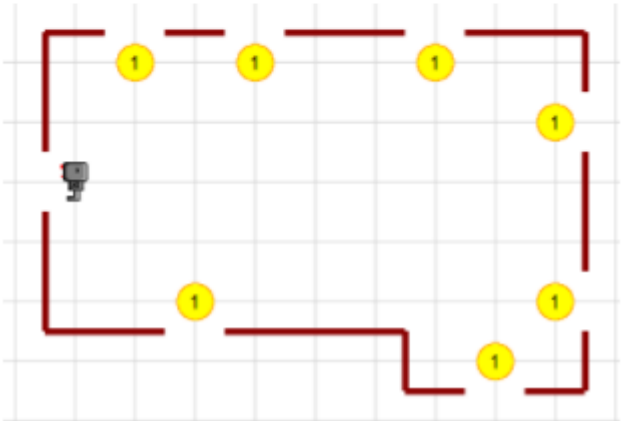
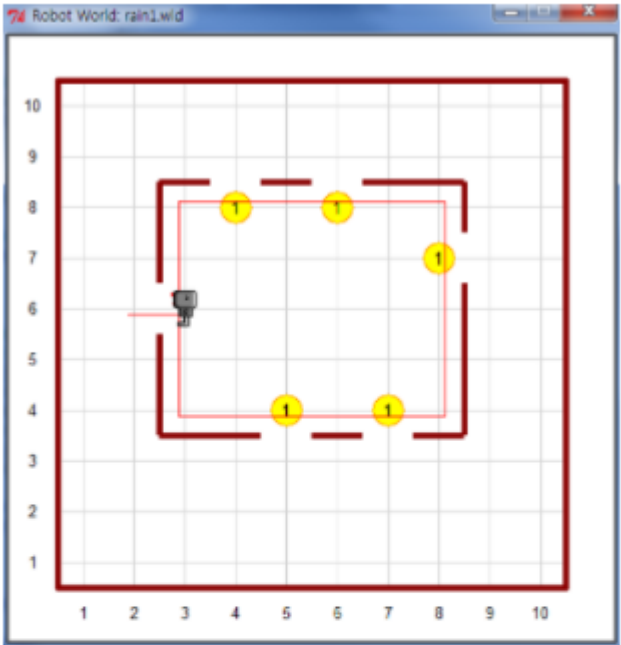
Initialize your robot with many beepers to use when closing windows, at the door of the house.

```
my_robot = Robot(beepers=100, avenue=2, street=6)
```

Your code must work for both of the worlds:

- 'rain1.wld'
- 'rain2.wld'

Expected results



- Given

```
rain.py
1 from cs1robots import *
2 ~
3 # Your code must work for both of the worlds below.
4 load_world('worlds/rain1.wld')
5 # load_world('worlds/rain2.wld')
6 ~
7 # Initialize your robot at the door of the house.
8 my_robot = Robot(beepers=100, avenue=2, street=6, orientation='E')
9 ~
10 # Now close all the windows in the house!
```

Task 5

Three Color Poster

You are given a code that reads an image file and converts it into a black & white poster.

Modify the code to make it reads an image file and converts it into a three color poster:

- Turn all bright pixels yellow.
- Turn all dark pixels blue.
- Turn all other pixels green.

You can choose your own thresholds to decide the brightness of a pixel. The example below using $1/3$ and $3/2$ of 255

Before



After



IMPORTANT:

since the task will require you to use an image, it will be better to send you the actual image as given, So I will download the image along with the provided code in a link. For the link to work with you need to copy it into your browser

https://1drv.ms/u/s!AsvS6MN-T1rhgo5X_9jAm64q3JeVfA?e=XPtvoQ