

# Final Project

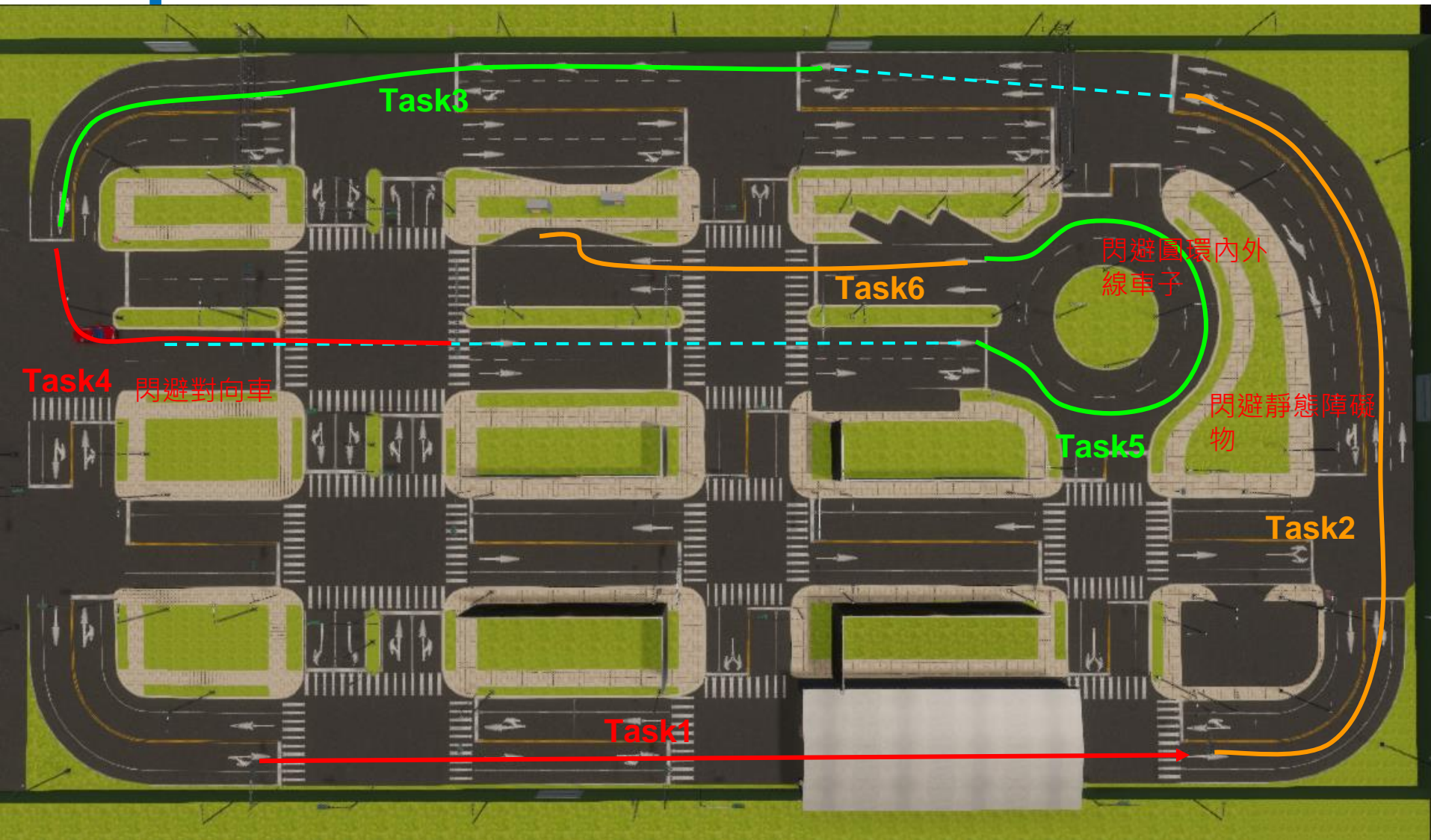
► 2021.12.14

# Tasks

- ▶ There are six tasks.
  - Traffic light
  - Road curves
  - Narrowing driving lanes
  - T-junction
  - Roundabout
  - Angled Parking lots
- ▶ Please download code from this link.
  - [https://cool.ntu.edu.tw/courses/8184/files/1516681/download?download\\_frd=1](https://cool.ntu.edu.tw/courses/8184/files/1516681/download?download_frd=1)

# Map

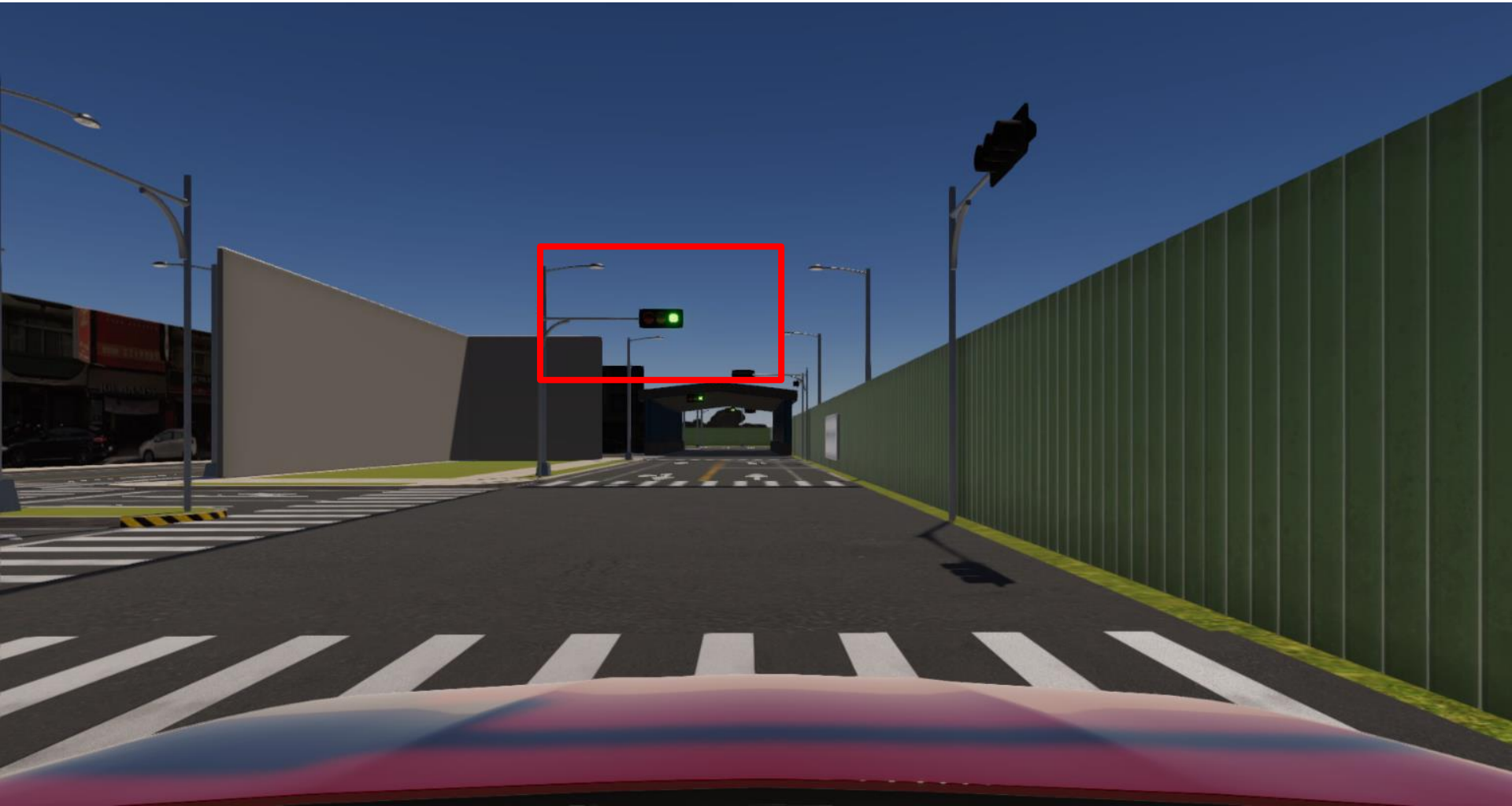
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# Traffic Light (20pt)

- ▶ Start position: -25.59, -49.80
- ▶ End position: 78.77, -11.41
- ▶ Description:
  - There are two intersections on the path. You need to stop behind stop line when the red light is on.
- ▶ Score:
  - 5pt: Always drive in correct lane.
  - 15pt: Follow the traffic light correctly.
    - 3\*3pt stop in front of stop line when red.
    - 2\*3pt start within 2 second after light turns green.

# Traffic Light



# Curve Road (15pt)

- ▶ Start position: 78.74, -11.37
- ▶ End position: 53.64, 61.24
- ▶ Description:
  - In this task, you need to turn left and keep in lane
- ▶ Score:
  - 5pt: Always drive in correct lane.
  - 10pt: Arrive end position and the heading is perpendicular to the stop line.





# Narrowing driving lanes (20pt)

- ▶ Start position: 11.41, 50.00
- ▶ Narrowing point: -26.40, 36.00
- ▶ End position: -68.19, 2.09
- ▶ Description:
  - You need to change to inner lane and drive to the end position.
- ▶ Score:
  - 10pt: Didn't drive to the outside of lanes.
  - 10pt: Arrive end position and the heading is perpendicular to the stop line.



# Narrowing driving lanes



# T-junction (20pt)

- ▶ Start position: -68.59, 2.85
- ▶ End position: -42.16, -4.90
- ▶ Description:
  - You need to turn left at the intersection, and avoid opposite traffic.
- ▶ Score:
  - 8pt: Didn't hit the safety island.
  - 4pt: Arrive end position and the heading is parallel to the lane.
  - 8pt: Avoid opposite traffic.

# Safety Island

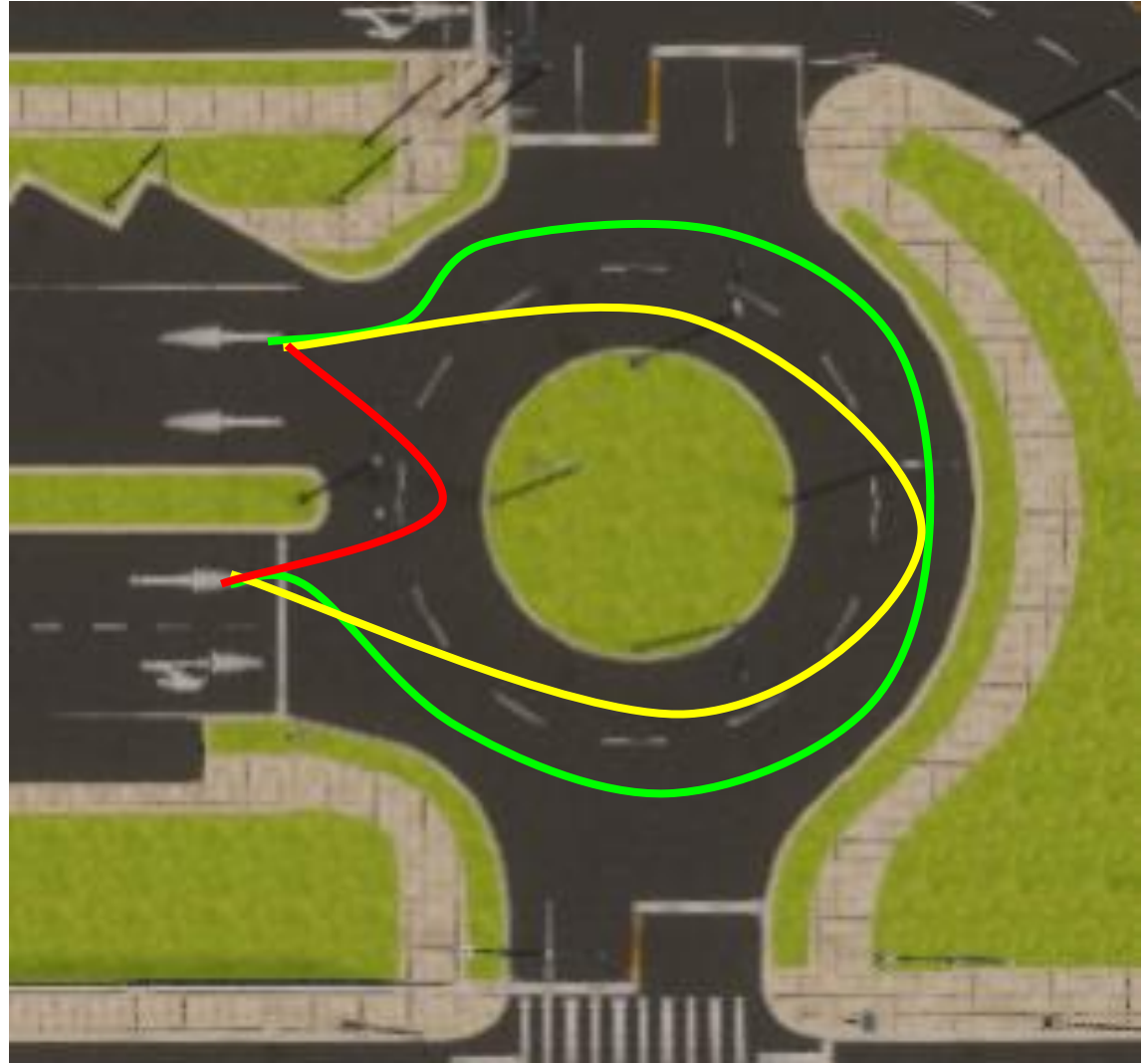


# Roundabout (15pt)

- ▶ Start position: 35.66, 24.11
- ▶ End position: 34.90, 36.00
- ▶ Description:
  - Drive from start position to end position. The direction of roundabout is counterclockwise.
- ▶ Score:
  - 5pt: Arrive end position and the heading is parallel to the lane.
  - 5pt: Pass the middle position.
  - 5pt: Always drive in lane.
  - -5pt: Collision. (NPC disappear after 1 second)

# Roundabout

- ▶ Green: 15pt
- ▶ Yellow: 10pt
- ▶ Red: 5pt





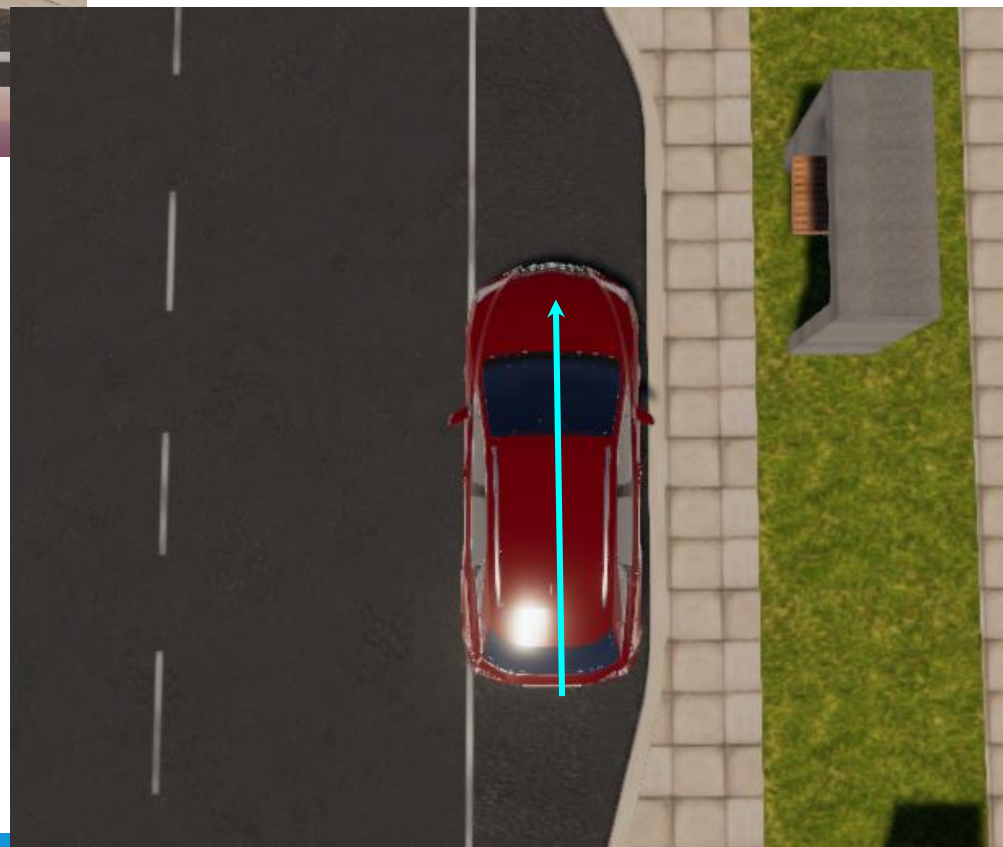
# Angled Parking Slots (10pt)

- ▶ Start position: 36.0, -38.1
- ▶ End position: 33.4, -23.4
- ▶ Description:
  - You need to stop the vehicle in a parking slot.
- ▶ Score:
  - 5pt: The heading is parallel to the parking slot.
  - 5pt: The vehicle is completely driving outside the lane.





- ▶ Park in green area: 5pt
- ▶ Correct heading: 5pt



# Demo

- ▶ Date: 1/11, 1/18 or 1/25
- ▶ Place: TBA.
- ▶ Bring your laptop to the classroom or use TeamViewer to control your PC remotely.
- ▶ You need to record a video during the demo or let TA record it by TeamViewer.
- ▶ You can also prepare a video of your best tried.