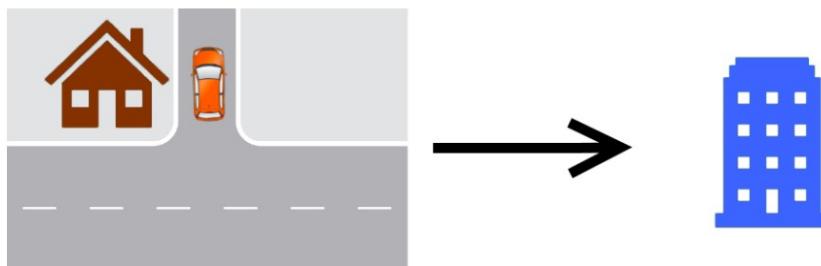


✓ Congratulations! You passed!

[Next Item](#)

✓ 1. Scenario 1: You're at home and need to drive to work

1 / 1
point



During the trip, you will be performing OEDR tasks. Of the tasks below, which of the following is **not** an example of OEDR?

- Stopping at a red light
- Slowing down when seeing a construction zone ahead
- Pulling over upon hearing sirens
- Maintaining a distance to a vehicle ahead

Correct

Correct! Maintaining distance is not a detection and reaction procedure, it is a normal driving behavior.

✓ 2. Which of the following tasks are associated with **perception**?

1 / 1
point

- Estimating the motion of other vehicles

Correct

Correct! Estimating the motion of other vehicles is associated with perception

- Identifying road signs

Correct

Correct! Identifying road signs are associated with perception

- Responding to traffic lights

Un-selected is correct

- Planning routes on a map

Un-selected is correct



3. Before leaving, you decide to check the weather. The forecast states that over the next few days there will be both sun and rain along with some fog. Assuming your vehicle exhibits Level 5 autonomy, which of the following **weather conditions** can your vehicle operate?

- Clear and sunny
- Windy heavy rainfall
- Heavy Fog
- Light rainfall
- All of the above

Correct

Correct! Level 5 autonomy can operate in any weather condition.



4. You enter your autonomous vehicle and it drives your usual route to work. While the vehicle is driving, you decide to take a nap. For **which levels of autonomy** is this safe? (Select all that apply)

1 / 1
point

- 1

Un-selected is correct

- 2

Un-selected is correct

- 3

Un-selected is correct

- 4

Correct

Correct! Only level 4 and 5 autonomy can handle emergencies autonomously.

- 5

Correct

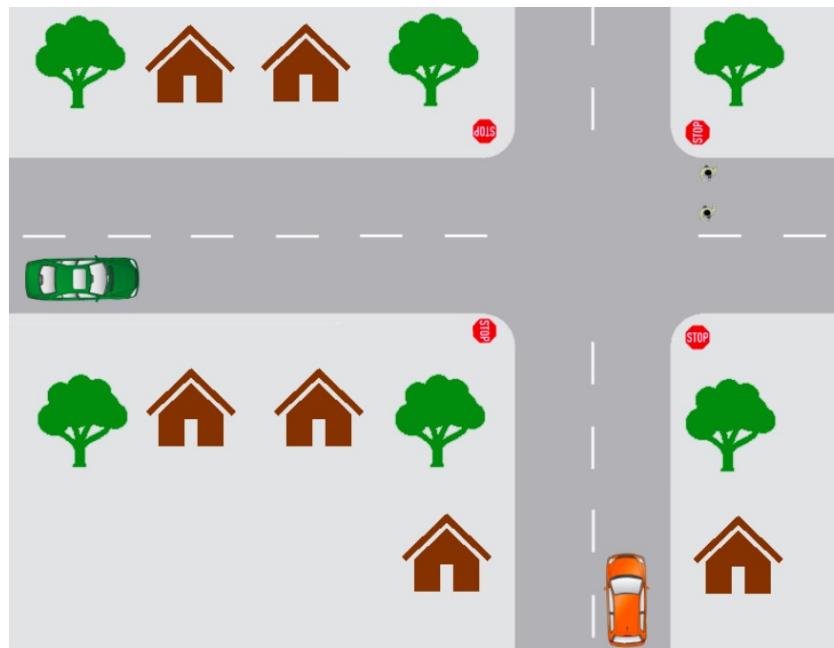
Correct! Only level 4 and 5 autonomy can handle emergencies autonomously.



5. **Scenario 2:** (Assume the car is driving on the right-hand side of the road).

1 / 1
point

You're approaching an all ways stop sign and you want to make a right turn. Your vehicle is denoted in orange. There are 2 pedestrians currently crossing and another vehicle (denoted in green) approaching the stop sign from the left.



This task involves multiple considerations, which of them are **predictive planning**? Select all that apply.

- The green car arrives at the stop sign after you and plans to travel straight through the intersection. You choose to move first.

Correct

Correct! Predictive planning deals with planning based on predictions of the actions of others.

- Gradually decelerate while reaching the stop sign

Un-selected is correct

- At a stop sign, stop and look both ways before proceeding

Un-selected is correct

- Wait for the pedestrians to finish crossing before turning

Correct

Correct! Predictive planning deals with planning based on predictions of the actions of others.



6. Here are some rules for driving at a stop sign. Which of the following is an appropriate **priority ranking**?

1 / 1 point

- 1) For non all-way stop signs, stop at a point where you can see oncoming traffic without blocking the intersection
- 2) If there are pedestrians crossing, stop until they have crossed
- 3) If you reach a stop sign before another vehicle, you should move first if safe

1, 2, 3

3, 2, 1

2, 1, 3

Correct

Correct! Prioritize safety.

3, 1, 2

1, 3, 2



7. Which of the following are **off-road objects**? (Select all that apply)

1 / 1
point

Pedestrians

Un-selected is correct

Stop signs

Correct

Correct! These are examples of off road objects.

Trees

Correct

Correct! These are examples of off road objects.

Curbs

Correct

Correct! These are examples of off road objects.

Road markings

Un-selected is correct



8. Suppose your vehicle has **lane keeping assistance**, which of these objects are relevant for its performance? (Select all that apply)

1 / 1
point

Trees

Un-selected is correct

Road markings

Correct

Correct! Detecting road markings and curbs are needed for lane keeping.

Curbs

Correct

Correct! Detecting road marks and curbs are needed for lane keeping.

Stop signs

Un-selected is correct

Pedestrians

Un-selected is correct



9. Which of the following sensors are used for the **lane keeping assistance**? (Select all that apply)

1 / 1
point

GPS

Correct

Correct! Detection and localization is needed for lane keeping.

IMU

Correct

Correct! Detection and localization is needed for lane keeping.

LIDAR

Correct

Correct! Detection and localization is needed for lane keeping.

Cameras

Correct

Correct! Detection and localization is needed for lane keeping.

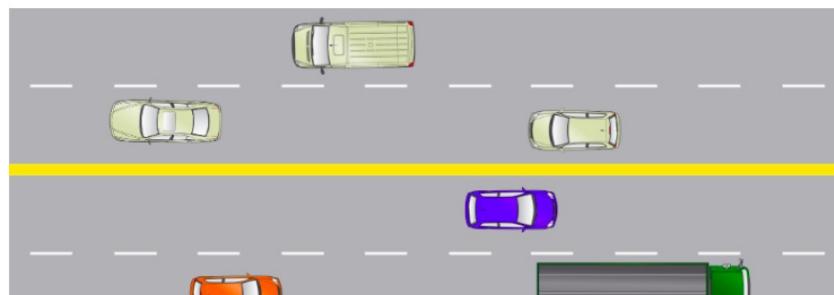
Barometers

Un-selected is correct



10. **Scenario 3:** You are on the highway and you see a truck in front of you. Assume the car is driving on the right-hand side of the road. There is also a blue car beside the truck in the other lane.

1 / 1
point



Your vehicle follows the truck and maintains a constant distance away. What kind of **control** is this?

Longitudinal

Correct

Correct! Distance keeping is a longitudinal control problem.

OEDR

Lateral

Fallback



11. You decide to **change lanes** to pass a truck. What kind of decision is this?

1 / 1
point

Short term planning

Correct

Correct! Lane changing is a short term task.

Reactive

Long term planning

Rule-based planning

Immediate



12. Which of the following tasks are **rule-based planning**? (Select all that apply)

1 / 1
point

During a lane change, maintain our current speed or accelerate slightly

Correct

Correct! Rule based planning only considers the present state, not what vehicles will do next.

If the vehicle in front is going to slow down sharply, then avoid performing a lane change.

Un-selected is correct

If there are vehicles directly beside us on the lane, it is unsafe to lane change.

Correct

Correct! Rule based planning only considers the present state, not what vehicles will do next.



13. Suppose the blue vehicle suddenly brakes and you decide to abort the lane change. If your vehicle can **respond automatically and remain in its own lane**, what is the

1 / 1
point

minimum level of autonomy of your vehicle?

- 5
- 1
- 2
- 3

Correct

Correct! Level 3 autonomy can perform OEDR.

- 4



14. The blue vehicle returns to normal speed and you can now safely change lanes. Your car is **performing the lane change**, what kind of control is this?

1 / 1
point

- Lateral

Correct

Correct! Lane changing is a lateral control problem.

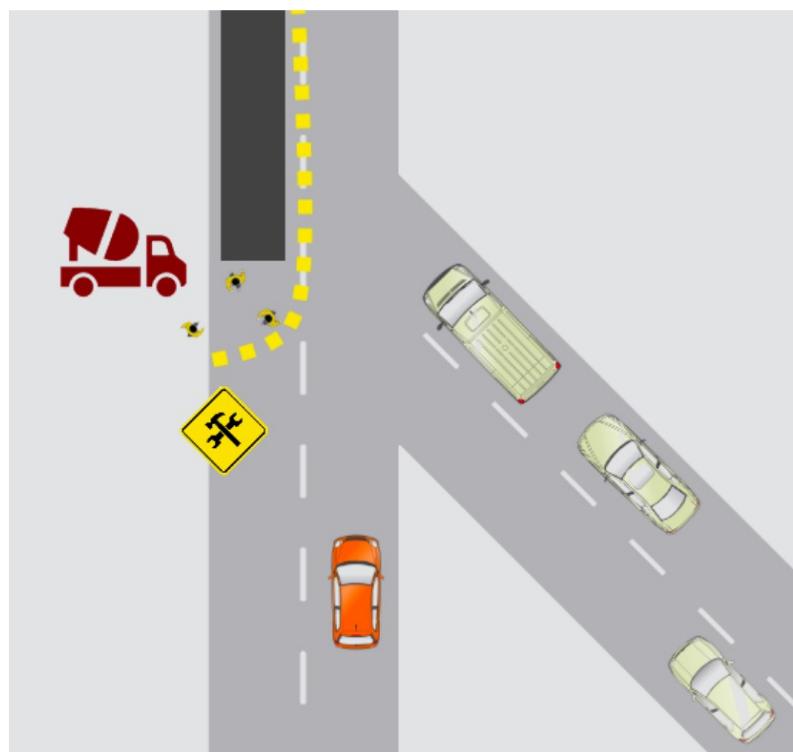
- Longitudinal
- Fallback
- OEDR

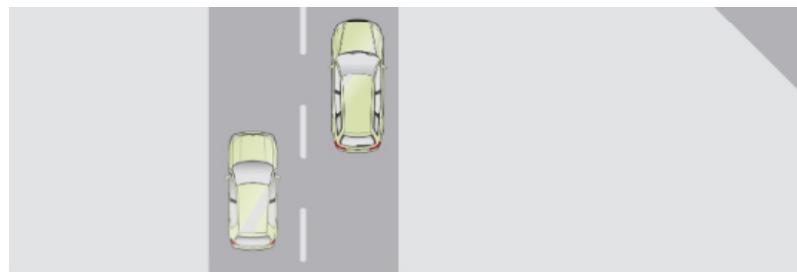


15. **Scenario 4:** You are almost at work but encounter a construction site.

1 / 1
point

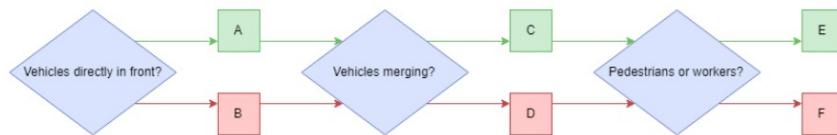
Assume the car is driving on the right-hand side of the road. Your vehicle is denoted in orange.





You see a construction site where the workers are repaving a road full of potholes. They are using jackhammers which can cause dust clouds.

You create the following decision tree for getting through the construction site. From the diagram, which of the following decisions should you make? (**green is true, red is false**)



A (True)

Un-selected is correct

B (False)

Correct

Correct!

C (True)

Correct

Correct!

D (False)

Un-selected is correct

E (True)

Correct

Correct!

F (False)

Un-selected is correct



16. Here are a set of rules for making these decisions, **arrange them in an appropriate prioritization**.

point

- 2) Drive slowly in construction zones
- 3) If there are pedestrians or workers directly ahead in the current lane, stop
- 4) Yield to merging vehicles, if necessary

1, 2, 3, 4

2, 3, 4, 1

3, 4, 1, 2

3, 4, 2, 1

Correct

Correct! Prioritize safety in each case, yielding to pedestrians and then vehicles first, before defining acceptable travel speed.



17. Scenario 5: You're finished work and need to drive back home, but it's nighttime.

1 / 1
point



You plan a new path home on your GPS application to avoid the construction site, **what type of planning is this?**

Immediate

Reactive

Long term planning

Correct

Correct! Setting a path before driving is long term planning.

Short term planning

Rule based planning





10. Your new path goes through a school zone and you see the school zone sign. You decide to slow down despite there being no pedestrians or children (it's nighttime). What sort of planning is this?

1 / 1
point



- Long term planning
- Short term planning
- Reactive planning
- Immediate planning
- Rule based planning

Correct

Correct! The rule to slow down in school zones is being followed.

