INSTRUCTIONS:
Fill out the hazard analysis and risk assessment below.
HA-001 should be for the lane departure warning function as discussed in the lecture.
HA-002 should be for the lane keeping assistance function as discussed in the lecture.
Then come up with your own situations and hazards for the lane assistance system. Fill in the HA-003 and HA-004 rows.
When finished, export your spreadsheet as a pdf file so that a reviewer can easily see your work.

Hazard ID	Situational Analysis							Hazard Identification						Hazardous Event Classification						Determination of ASIL and Safety Goals	
	Operational Mode	Operational Scenario	Environmental Details	Situation Details	Other Details (optional)	Item Usage (function)	Situation Description	Function	Deviation	Deviation Details	Hazardous Event (resulting effect)	Event Details	Hazardous Event Description	Exposure (of situation)	Rationale (for exposure)	Severity (of potential harm)	Rationale (for severity)	Controllability (of hazardous event)	Rationale (for controllability)	ASIL Determination	Safety Goal
HA-001	Normal Driving	Highway	Normal conditions	High Speed		Correctly used	Normal driving on highway under normal environment conditions with high speed and correctly used function usage.	Lane Departure Warning (LDW) function shall apply an oscillating steering torque to provide the driver with haptic feedback	Actor effect to much	The steering actuator applies to much torque above the limit.	Collision with other vehicle.	High haptic feedback can affect driver's ability to steer as intended. The driver could lose control of the vehicle and collide with another vehicle or with road infrastructure.	The collision with a different vehicle could lead to injuries of the driver and other road users.	E3 - Medium probability	Highway driving under normal conditions with high speed is rather likley to happen.	S3 - Life-threatening or fatal injuries	High speed driving	C3 - Difficult to control or uncontrollable	Unexpected collisions at high speed are generally hard to control for ordinary people.	C	The oscillating steering torque from the lane departure warning function shall be limited.
HA-002	Normal Driving	Country Road	Normal conditions	High Speed		Incorrectly used	Normal driving country road under normal environment conditions with high speed and incorrectly used function usage.	Lane Keeping Assistance (LKA) function shall apply the steering torque when active in order to stay in ego lane	Function always activated	The function is always activated and is misused as level 3 function.	Collision with other vehicle.	The driver can misuse the function as a fully autonomously L3 function. The attention to surrounding traffic could get lost.	The collision with a different vehicle could lead to injuries of the driver and other road users.	E2 - Low probability	Misusing the function on a country road is rather unlikely.	S3 - Life-threatening or fatal injuries	High speed driving	C3 - Difficult to control or uncontrollable	Unexpected collisions at high speed are generally hard to control for ordinary people.	B	The lane keeping assistance function shall be time limited and the additional steering torque shall end after a given time interval so that the driver cannot misuse the system for autonomous driving
HA-003	Normal Driving	Highway	Sun blares	High Speed		Correctly used	Normal driving on highway under blaring sun conditions with high speed and correctly used function usage.	Lane Keeping Assistance (LKA) function shall apply the steering torque when active in order to stay in ego lane	Actor action too less	The camera subsystem malfunctions due to degraded view.	Collision with other vehicle.	The camera subsystem can be affected by bad light condition. The driver could rely on an activated function which could cause unintended vehicle behaviour.	The collision with a different vehicle could lead to injuries of the driver and other road users.	E1 - Very low probability	Blaring sun conditions do not occur often.	S3 - Life-threatening or fatal injuries	High speed driving	C3 - Difficult to control or uncontrollable	Unexpected collisions at high speed are generally hard to control for ordinary people.	A	The lane keeping assistance function shall be deactivated on bad light conditions
HA-004	Normal Driving	Highway	Normal conditions	High Speed		Correctly used	Normal driving on highway under normal environment conditions with high speed and correctly used function usage.	Lane Departure Warning (LDW) function shall apply an oscillating steering torque to provide the driver with haptic feedback	Function unexpectedly working	The steering actuator applies oscillating torque.	Collision with other vehicle.	The driver unexpectedly gets haptic feedback from the function and could lose the control over the vehicle	The collision with a different vehicle could lead to injuries of the driver and other road users.	E3 - Medium probability	Highway driving under normal conditions with high speed is rather likley to happen.	S3 - Life-threatening or fatal injuries	High speed driving	C3 - Difficult to control or uncontrollable	Unexpected collisions at high speed are generally hard to control for ordinary people.	C	The lane keeping departure warning function shall be switched off when the driver signals a lane change