Initialize the vehicle far away from the seafloor. An example position could be

[10.5 35.5 -36 0 0 pi/2] (x,y,z,roll,pitch,yaw)

Goal: Implement a vehicle altitude control task, adding the proper Jacobian variable, its activation function, and the desired reference rate. Maintain a minimum of 1 meter from the seafloor. A sensor measuring the distance (along the z-axis of the vehicle) to the seafloor is provided within the variable uvms.sensorDistance. Notice that this is, in general, different from the altitude of the vehicle (distance along the inertial z-axis of the vehicle frame to the seafloor). Assume a flat seafloor and compensate the sensor measurement for possible roll and pitch values of the vehicle.

Test the functioning of the position/attitude vehicle control tasks together with the minimum altitude in two situations:

1) one where the desired position is too close to seafloor, for example

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[12.2025   37.3748  -39.8860]
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2) one where the desired position is instead far away from the seafloor, for example

[10.5 37.5 -38]