



Modern vehicles (cars, industrial trucks, planes, robots, ...) have camera, infrared, laser, radar, ... sensors to continuously scan obstacles in the direction of movement. Their data are needed for distance, collision avoidance, breaking assistance, ... systems. In this task a simplified version of obstacles shall be modeled by points detected by an imaginary sensor system placed in the front and middle of the vehicle as origin of a relative local two-dimensional cartesian coordinate system. Arbitrary many of such obstacles/points in front of a vehicle shall be stored in a list. This list shall be sorted by the Euclidian distance from the origin (see picture above and example below)

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string describing obstacle ("end" for end of input): A
x and y coordinate: -27.2 12.8
string describing obstacle ("end" for end of input): B
x and y coordinate: 0.1 41.4
string describing obstacle ("end" for end of input): C
x and y coordinate: 15.9 30.25
string describing obstacle ("end" for end of input): D
x and y coordinate: -12.74 29.13
string describing obstacle ("end" for end of input): E
x and y coordinate: 27.68 23.45
string describing obstacle ("end" for end of input): F
x and y coordinate: 29.41 37.92
string describing obstacle ("end" for end of input): G
x and y coordinate: -21.03 45.19
string describing obstacle ("end" for end of input): H
x and y coordinate: 13.47 42.1
string describing obstacle ("end" for end of input): end
obstacle A: (-27.20, 12.80), distance: 30.06m, nearest to this: D
obstacle D: (-12.74, 29.13), distance: 31.79m, nearest to this: B
obstacle C: ( 15.90, 30.25), distance: 34.17m, nearest to this: H
obstacle E: ( 27.68, 23.45), distance: 36.28m, nearest to this: C
obstacle B: ( 0.10, 41.40), distance: 41.40m, nearest to this: H
obstacle H: ( 13.47, 42.10), distance: 44.20m, nearest to this: C
obstacle F: ( 29.41, 37.92), distance: 47.99m, nearest to this: E
obstacle G: (-21.03, 45.19), distance: 49.84m, nearest to this: D
delete: A D C E B H F G
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