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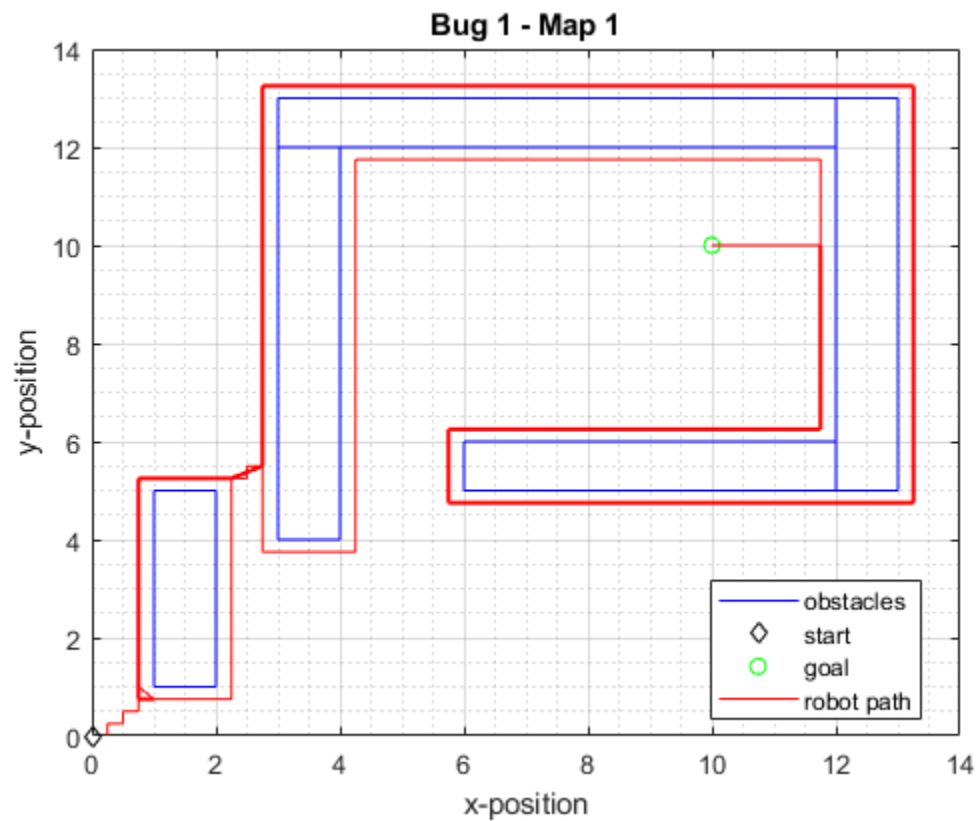
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## Housekeeping

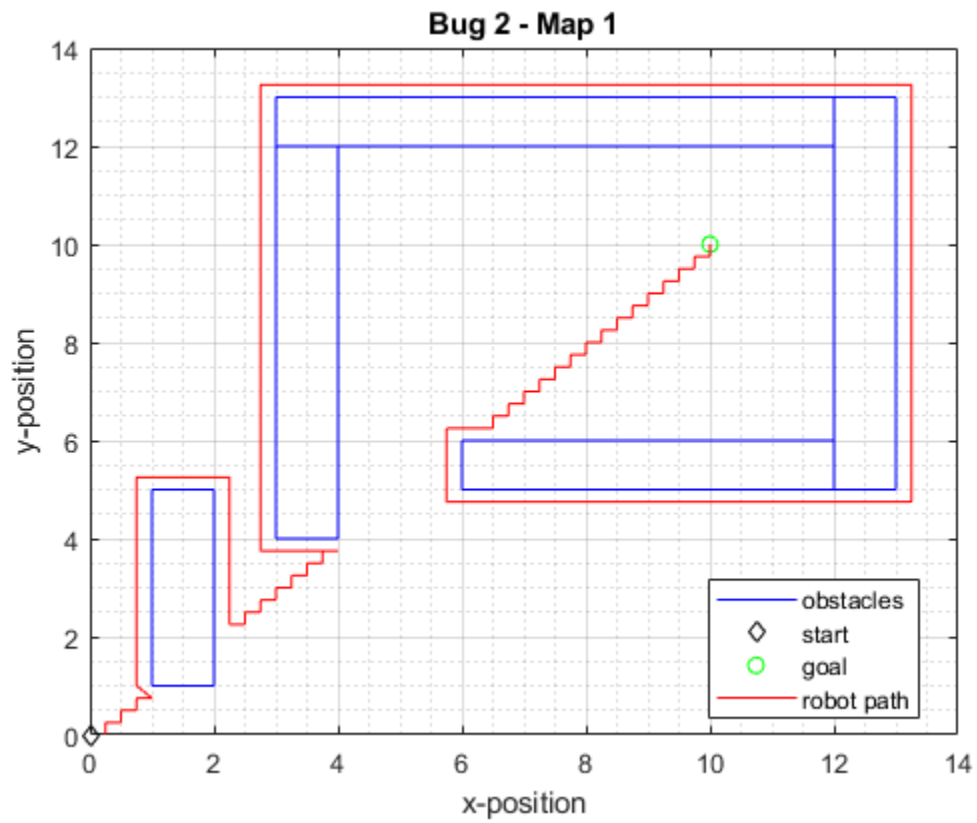
## Variable Init

## Bug1 Map1

*Warning: Ignoring extra legend entries.*

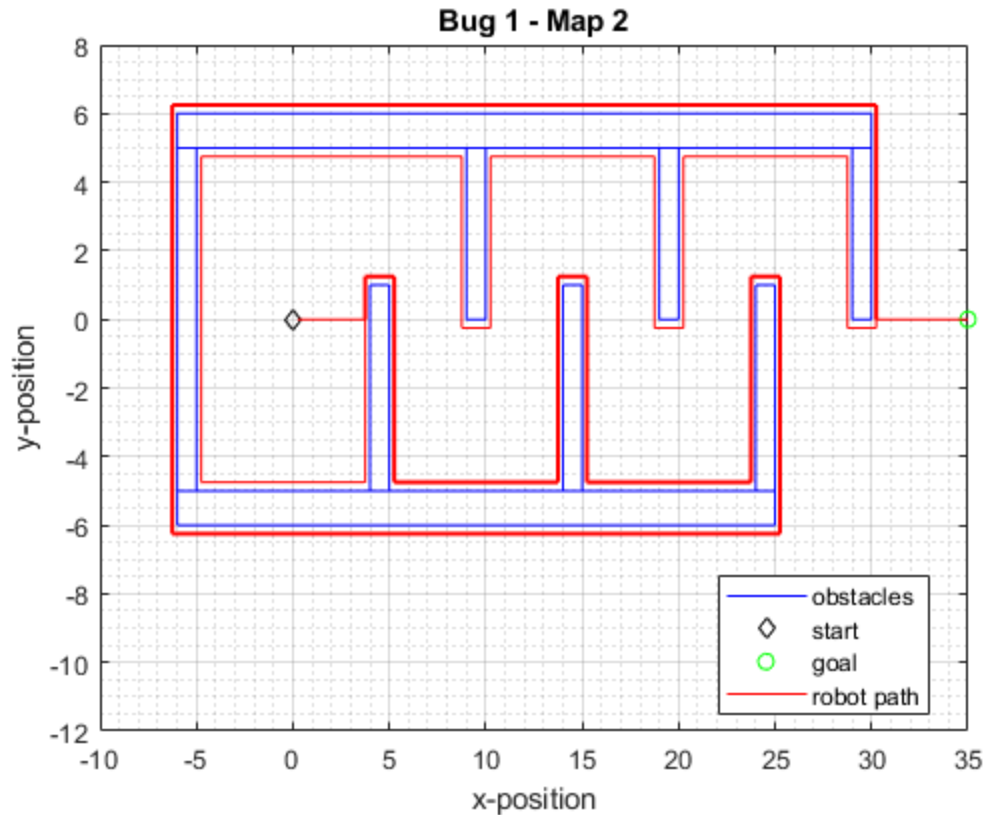


# Bug2 Map1



# Bug1 Map2

*Warning: Ignoring extra legend entries.*



## Bug2 Map2

*Warning: Ignoring extra legend entries.*

*The path length for bug1 map1 = 133.500000*

*The path length for bug2 map1 = 60.250000*

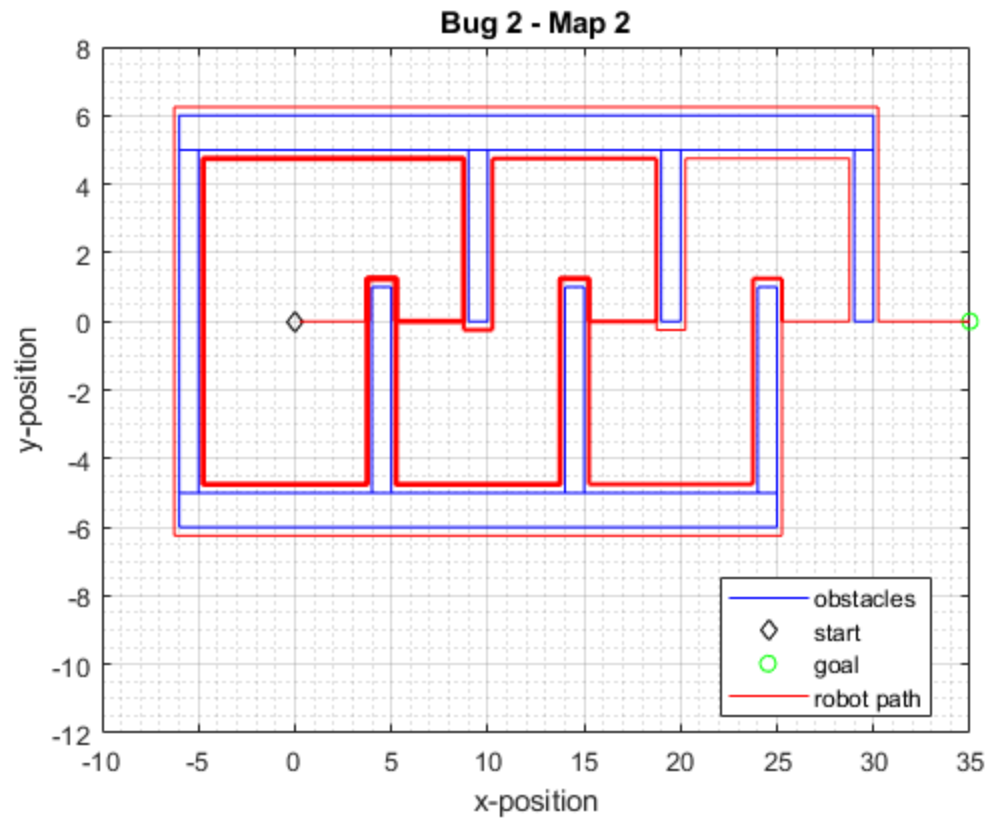
*The path length for bug1 map2 = 373.250000*

*The path length for bug2 map2 = 419.500000*

*For the Bug 1 algorithm, I would expect the path length for a right turning robot to be the same as for a left turning robot because the robot has to circumnavigate the entire obstacle regardless and then motion to goal at the closest point.*

*The upper bound on the path length is  $D + (3/2) * \text{sum}(\text{obstacle\_perimeter})$ .*

*However, I would expect different lengths for the Bug 2 algorithm since the upper bound of the path length depends on the number of m-line intersections and many of those intersections could be further from the goal as the previous intersection thus increasing the path length more.*



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