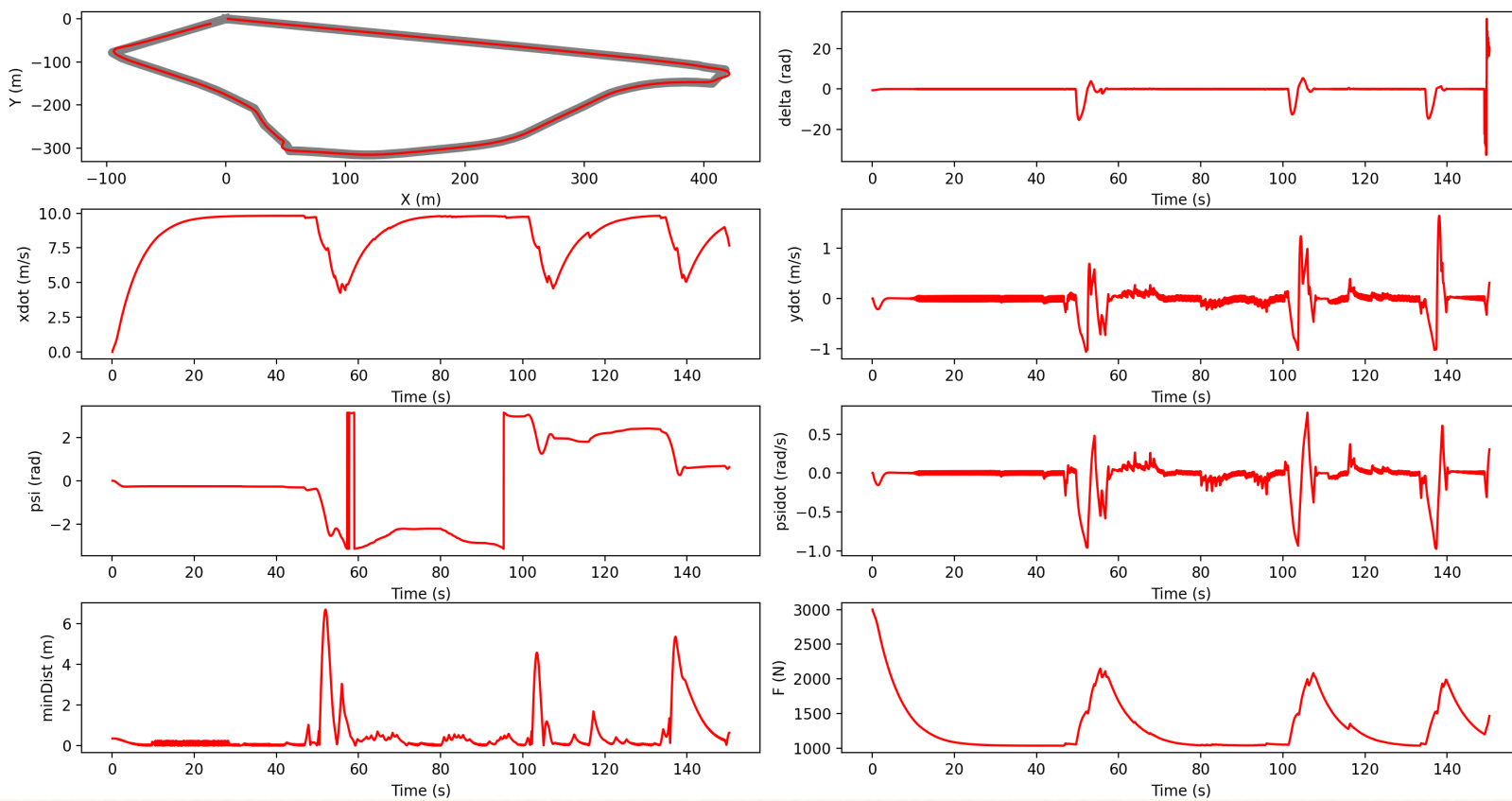


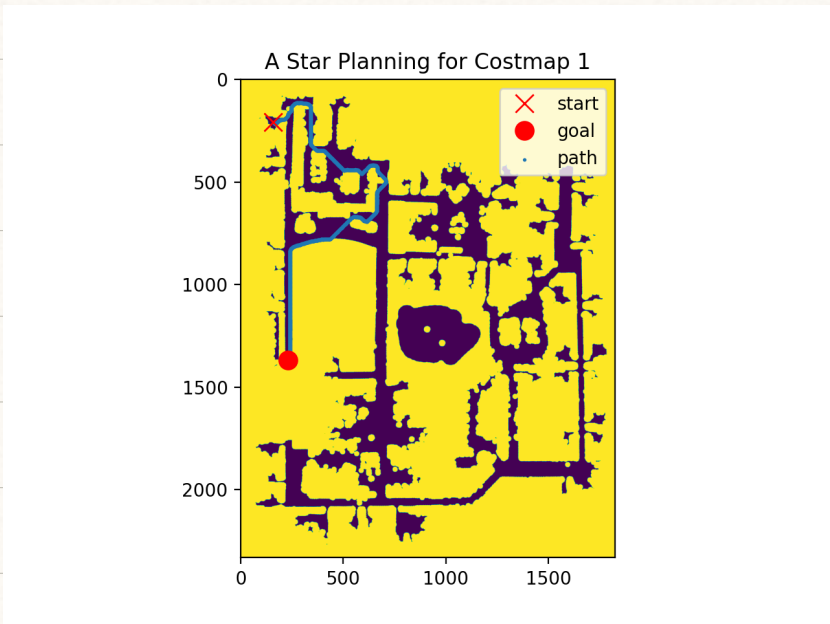
Ex1



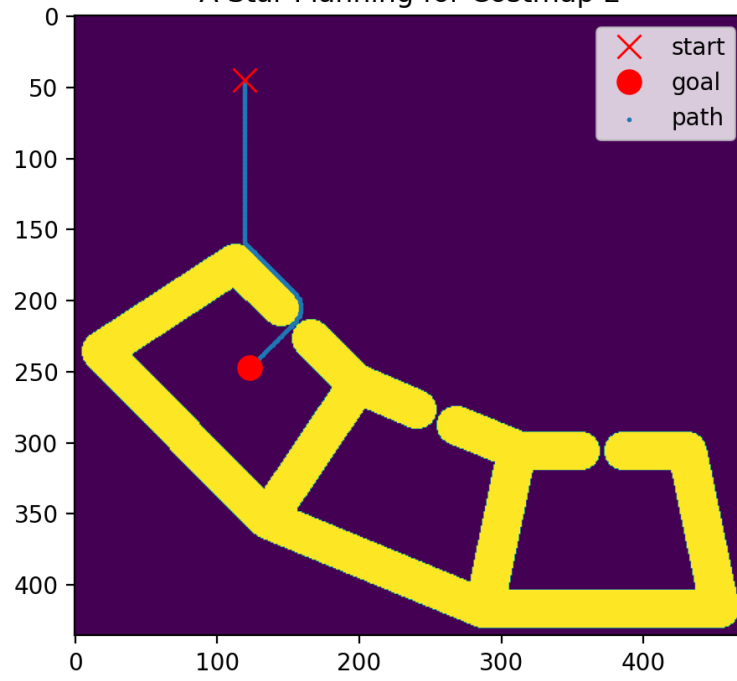
```

x  Console - All
2021-11-15 17:58:49.734 Python[99685:3822540] _TIPropertyValueIsValid called with 4 on nil context!
2021-11-15 17:58:49.734 Python[99685:3822540] Imkxpc_getApplicationProperty:reply: called with incorrect property value 4, bailing.
2021-11-15 17:58:49.734 Python[99685:3822540] Text input context does not respond to _valueForTIProperty:
Evaluating...
Score for completing the loop: 30.0/30.0
Score for average distance: 30.0/30.0
Score for maximum distance: 30.0/30.0
Your time is 150.304
Your total score is : 100.0/100.0
total steps: 150304
maxMinDist: 6.703157672788437
avgMinDist: 0.5341901585214837
INFO: 'main' controller exited successfully.
```

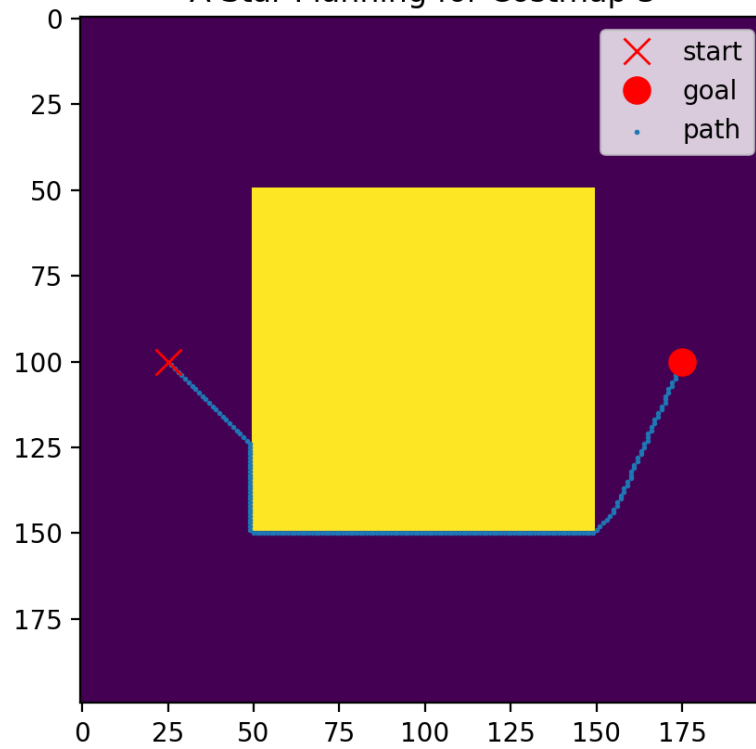
Ex2

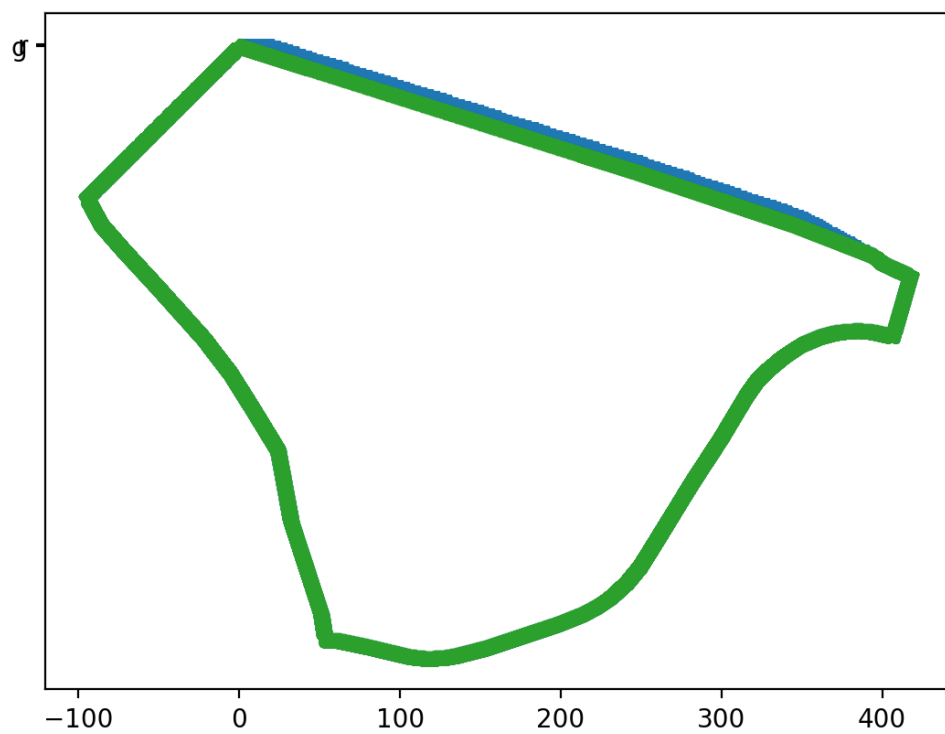
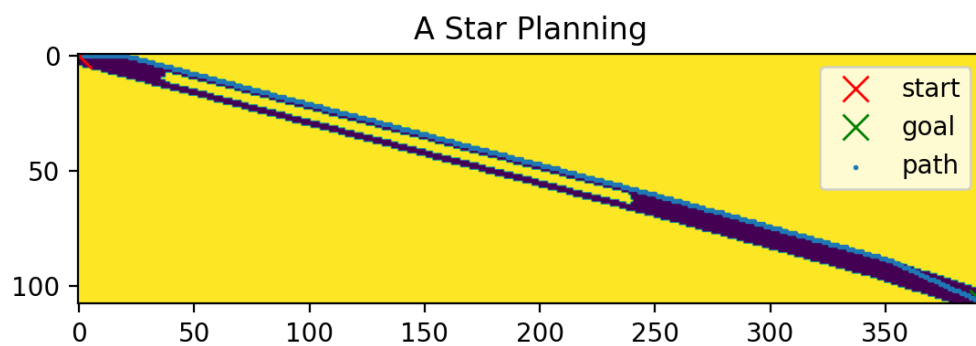


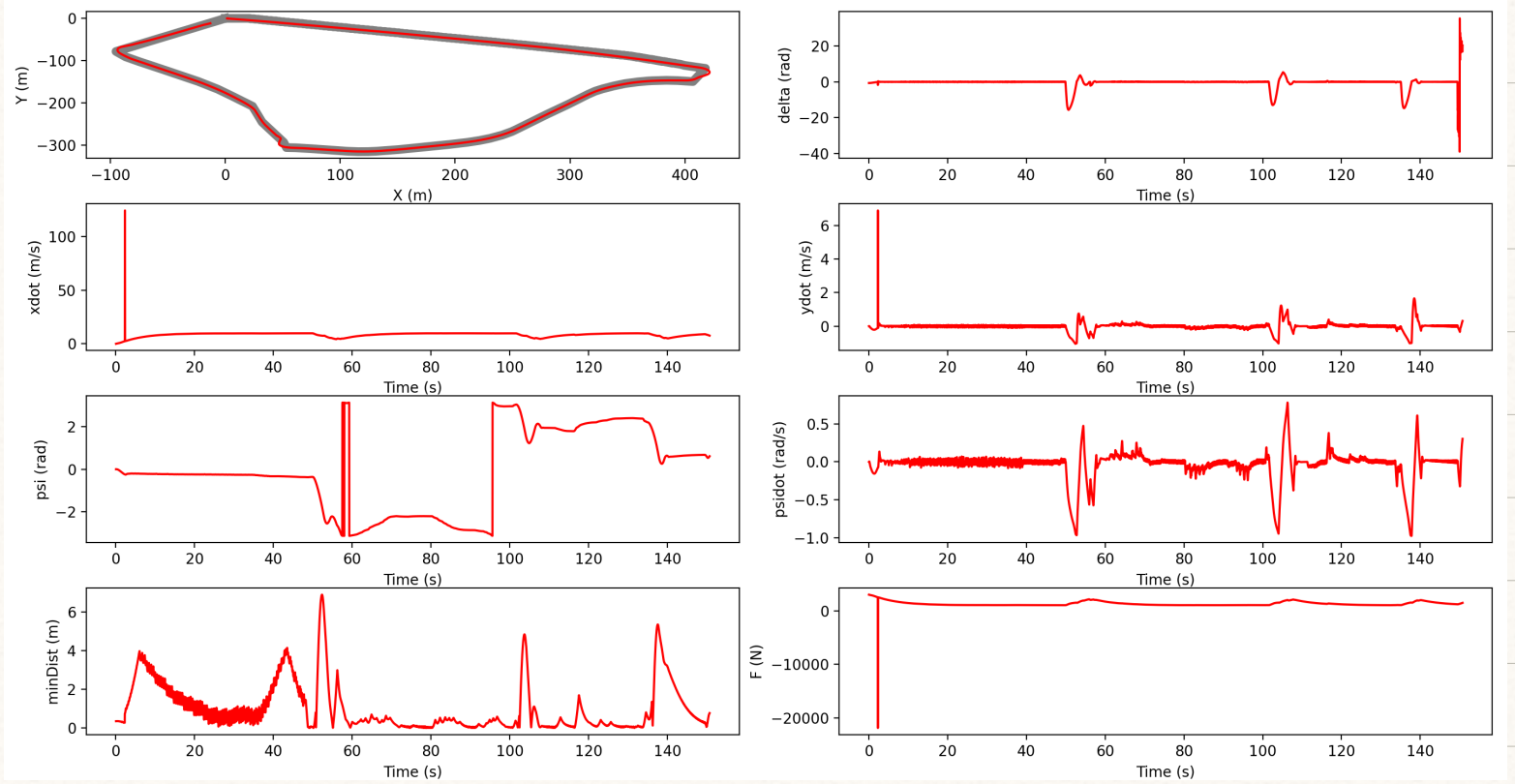
A Star Planning for Costmap 2



A Star Planning for Costmap 3







```

×  □  □  Console - All
[0 0 0 ... 1 1 1]
[0 0 0 ... 1 1 1]
...
[1 1 1 ... 0 0 0]
[1 1 1 ... 0 0 0]
[1 1 1 ... 0 0 0]]
map size (108, 393)
reach goal
path length 393
total steps: 150720
maxMinDist: 6.893984559939944
avgMinDist: 1.0204274657586403
INFO: 'main' controller exited successfully.

```