```
Last login: Sun Apr 12 12:02:39 on ttys000
Run-Mac:~ mac$ cd ~/.ssh
Run-Mac:.ssh mac$ ssh -i "Runzhe.pem" ubuntu@ec2-3-235-53-132.compute-1.amazonaws.com
The authenticity of host 'ec2-3-235-53-132.compute-1.amazonaws.com (3.235.53.132)' can't be established.
ECDSA key fingerprint is SHA256:J5YvaZsu550EFUsiLDCyMRsbOMjwc8EmlRNnSrHLAxw.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-3-235-53-132.compute-1.amazonaws.com,3.235.53.132' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1060-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Sun Apr 12 16:27:39 UTC 2020

  System load:  1.16               Processes:           223
  Usage of /:   28.0% of 30.96GB   Users logged in:     0
  Memory usage: 1%                 IP address for ens5: 172.31.5.25
  Swap usage:   0%

 * Kubernetes 1.18 GA is now available! See https://microk8s.io for docs or
   install it with:

     sudo snap install microk8s --channel=1.18 --classic

 * Multipass 1.1 adds proxy support for developers behind enterprise
   firewalls. Rapid prototyping for cloud operations just got easier.

     https://multipass.run/

 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch

89 packages can be updated.
39 updates are security updates.


Last login: Fri Apr  3 19:45:17 2020 from 107.13.161.147
export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
ubuntu@ip-172-31-5-25:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
12:29, 04/12; num of cores:16
seed_0

Basic setting:[rep_times, sd_O, sd_D, sd_u_O, w_O, w_A, u_O_u_D, sd_R_range, t_func] = [16, None, None, 20, 0.5, 1.5, 0, [0, 10, 20, 30]
, None]


---------------------------------------
[pattern_seed, day, sd_R] = [0, 7, 0]

max(u_O) =  145.4
O_threshold = 90
number of reward locations:  21
O_threshold = 100
number of reward locations:  18
O_threshold = 110
number of reward locations:  11
O_threshold = 120
number of reward locations:  6
target 1 in 4 DONE!
target 2 in 4 DONE!
target 3 in 4 DONE!
target 4 in 4 DONE!

---------------------------------------
Value of Behaviour policy:62.23
O_threshold = 90
MC for this TARGET:[78.698, 0.095]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[-0.62, -0.83, -1.78]][[1.19, -78.7, -16.47]]
std:[[0.8, 0.83, 0.38]][[0.32, 0.0, 0.2]]
MSE:[[1.01, 1.17, 1.82]][[1.23, 78.7, 16.47]]
MSE(-DR):[[0.0, 0.16, 0.81]][[0.22, 77.69, 15.46]]
***
==============
O_threshold = 100
MC for this TARGET:[78.957, 0.102]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[-1.39, -1.66, -3.91]][[0.66, -78.96, -16.73]]
std:[[0.46, 0.46, 0.35]][[0.33, 0.0, 0.2]]
MSE:[[1.46, 1.72, 3.93]][[0.74, 78.96, 16.73]]
MSE(-DR):[[0.0, 0.26, 2.47]][[-0.72, 77.5, 15.27]]
==============
O_threshold = 110
MC for this TARGET:[69.399, 0.084]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[1.41, 1.25, 0.74]][[0.61, -69.4, -7.17]]
std:[[0.58, 0.58, 0.4]][[0.38, 0.0, 0.2]]
```

```
MSE:[[1.52, 1.38, 0.84]][[0.72, 69.4, 7.17]]
MSE(-DR):[[0.0, -0.14, -0.68]][[-0.8, 67.88, 5.65]]
==============
O_threshold = 120
MC for this TARGET:[76.603, 0.064]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[-11.06, -11.09, -10.45]][[-14.94, -76.6, -14.37]]
std:[[0.95, 0.99, 0.53]][[0.53, 0.0, 0.2]]
MSE:[[11.1, 11.13, 10.46]][[14.95, 76.6, 14.37]]
MSE(-DR):[[0.0, 0.03, -0.64]][[3.85, 65.5, 3.27]]
**
==============
[[ 1.01  1.17  1.82  1.23 78.7  16.47]
 [ 1.46  1.72  3.93  0.74 78.96 16.73]
 [ 1.52  1.38  0.84  0.72 69.4   7.17]
 [11.1  11.13 10.46 14.95 76.6  14.37]]


time spent until now: 38.7 mins

13:07, 04/12

--------------------------------------
[pattern_seed, day, sd_R] = [0, 7, 10]

max(u_O) =  145.4
O_threshold = 90
number of reward locations:  21
O_threshold = 100
number of reward locations:  18
O_threshold = 110
number of reward locations:  11
O_threshold = 120
number of reward locations:  6
```