```
Last login: Thu Apr  9 13:29:52 on ttys000
Run-Mac:~ mac$ cd ~/.ssh
Run-Mac:.ssh mac$ ssh -i "Runzhe.pem" ubuntu@ec2-34-200-218-20.compute-1.amazonaws.com
Warning: Permanently added the ED25519 host key for IP address '34.200.218.20' 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 Thu Apr  9 20:31:44 UTC 2020

  System load:  1.49               Processes:           387
  Usage of /:   28.0% of 30.96GB   Users logged in:     0
  Memory usage: 0%                 IP address for ens5: 172.31.8.0
  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
ubuntu@ip-172-31-8-0:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
Traceback (most recent call last):
  File "EC2.py", line 4, in <module>
    rep_times = n_cores
NameError: name 'n_cores' is not defined
ubuntu@ip-172-31-8-0:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
16:34, 04/09; num of cores:36

Basic setting:[rep_times, sd_O, sd_D, sd_u_O, w_O, w_A, u_O_u_D, sd_R_range, t_func] = [36, None, None, 30, 0.5, 1, 0, [0, 10, 20, 30],
None]

Traceback (most recent call last):
  File "EC2.py", line 73, in <module>
    for day in day_range:
TypeError: 'int' object is not iterable
ubuntu@ip-172-31-8-0:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
16:34, 04/09; num of cores:36

Basic setting:[rep_times, sd_O, sd_D, sd_u_O, w_O, w_A, u_O_u_D, sd_R_range, t_func] = [36, None, None, 30, 0.5, 1, 0, [0, 10, 20, 30],
None]


--------------------------------------
[pattern_seed, day, sd_R] = [2, 14, 0]

max(u_O) =  168.8
O_threshold = 70
number of reward locations:  20
O_threshold = 80
number of reward locations:  15
O_threshold = 90
number of reward locations:  12
O_threshold = 100
number of reward locations:  9
O_threshold = 110
number of reward locations:  6
target 1 in 5 DONE!
target 2 in 5 DONE!
target 3 in 5 DONE!
target 4 in 5 DONE!
target 5 in 5 DONE!

--------------------------------------
Value of Behaviour policy:61.656
O_threshold = 70
MC for this TARGET:[74.07, 0.058]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[1.23, 1.0, -0.06]][[1.49, -74.07, -12.41]]
std:[[0.43, 0.44, 0.24]][[0.17, 0.0, 0.13]]
MSE:[[1.3, 1.09, 0.25]][[1.5, 74.07, 12.41]]
MSE(-DR):[[0.0, -0.21, -1.05]][[0.2, 72.77, 11.11]]
**
==============
```

```
O_threshold = 80
MC for this TARGET:[73.429, 0.065]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[0.23, 0.0, -1.31]][[0.47, -73.43, -11.77]]
std:[[0.35, 0.37, 0.22]][[0.17, 0.0, 0.13]]
MSE:[[0.42, 0.37, 1.33]][[0.5, 73.43, 11.77]]
MSE(-DR):[[0.0, -0.05, 0.91]][[0.08, 73.01, 11.35]]
***
==============
O_threshold = 90
MC for this TARGET:[70.82, 0.07]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[0.21, 0.04, -0.79]][[-0.14, -70.82, -9.16]]
std:[[0.26, 0.26, 0.2]][[0.16, 0.0, 0.13]]
MSE:[[0.33, 0.26, 0.81]][[0.21, 70.82, 9.16]]
MSE(-DR):[[0.0, -0.07, 0.48]][[-0.12, 70.49, 8.83]]
==============
O_threshold = 100
MC for this TARGET:[70.166, 0.071]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[-1.01, -1.16, -1.46]][[-2.17, -70.17, -8.51]]
std:[[0.28, 0.29, 0.2]][[0.17, 0.0, 0.13]]
MSE:[[1.05, 1.2, 1.47]][[2.18, 70.17, 8.51]]
MSE(-DR):[[0.0, 0.15, 0.42]][[1.13, 69.12, 7.46]]
***
==============
O_threshold = 110
MC for this TARGET:[69.509, 0.063]
   [DR/QV/IS]; [DR_NO_MARL, DR_NO_MF, V_behav]
bias:[[-3.26, -3.36, -3.48]][[-5.07, -69.51, -7.85]]
std:[[0.4, 0.4, 0.21]][[0.16, 0.0, 0.13]]
MSE:[[3.28, 3.38, 3.49]][[5.07, 69.51, 7.85]]
MSE(-DR):[[0.0, 0.1, 0.21]][[1.79, 66.23, 4.57]]
***
==============
[[ 1.3   1.09  0.25  1.5  74.07 12.41]
 [ 0.42  0.37  1.33  0.5  73.43 11.77]
 [ 0.33  0.26  0.81  0.21 70.82  9.16]
 [ 1.05  1.2   1.47  2.18 70.17  8.51]
 [ 3.28  3.38  3.49  5.07 69.51  7.85]]


time spent until now: 125.6 mins

18:40, 04/09

--------------------------------------
[pattern_seed, day, sd_R] = [2, 14, 10]

max(u_O) =  168.8
O_threshold = 70
number of reward locations:  20
O_threshold = 80
number of reward locations:  15
O_threshold = 90
number of reward locations:  12
O_threshold = 100
number of reward locations:  9
O_threshold = 110
number of reward locations:  6
target 1 in 5 DONE!
```