B2 python ver

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```
import numpy as np

def soda_simul(this_state):
  u=np.random.rand()
  if (this_state == "c"):
    if(u<=0.7):
      next_state = "c"
    else:
      next_state = "p"

  else:
    if(u<=0.5):
      next_state = "c"
    else:
      next_state = "p"

  return next_state

for i in range(5):
  path ="c"
  for i in range (9):
    this_state=path[-1]
    next_state=soda_simul(this_state)
    path=path+next_state
  print(path)
```

```
## cppccpccpc
## cppccccccc
## cccpppcccc
## cccpcccccc
## ccccpcppp
```

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```
def cost_eval(path):
    cost_one_path=path.count("c")*1.5 + path.count("p")*1
    return cost_one_path

MC_N=100000
spending_records=np.arange(0,MC_N)

for i in range(MC_N):
    path="c"
    for t in range (9):
        this_state = path[-1]
        next_state = soda_simul(this_state)
        path=path+next_state

    spending_records[i]=cost_eval(path)

print(np.mean(spending_records))
```

```
## 13.11238
```