MAB Demo 2: MAB Benchmarking

목차

패키지 로드

In [1]:

```
# simple evaluation of all multi-armed bandit algorithms
import os
import sys
module_path = os.path.abspath(os.path.join('..'))
if module_path not in sys.path:
    sys.path.append(module_path)

from mab import algorithm as bd
from mab import arm
from mab import scorer as sc
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
import time
```

하이퍼파라메터 설정

- **Number of Arms**: arm의 갯수
- **Number of Draws**: 총 시도 횟수

In [2]:

```
num_draws = 2000
print('total number of draws: {}'.format(num_draws))

# Arm 설정
arms = [
    arm.BernoulliArm(0.8),
    arm.BernoulliArm(0.6),
    arm.BernoulliArm(0.25)
]
num_arms = len(arms)
print('number of arms: {}'.format(num_arms))
```

```
total number of draws: 2000
number of arms: 3
```

함수 정의

In [3]:

```
def benchmark_mab(algorithms, num_draws):
    num_algorithms = len(algorithms)
    avg_score = np.zeros((num_draws, num_algorithms))
    best_score = np.zeros_like(avg_score)
    cum_score = np.zeros_like(avg_score)

    for i in range(num_algorithms):
        scorers = [
            sc.AverageRewardScorer(),
            sc.BestArmSelectedScorer(arms),
            sc.CumulativeRewardScorer()
        ]

        elapsed_time = 0.0

        for j in range(num_draws):
            start_time = time.perf_counter()
            selected_arm = algorithms[i].select_arm()
            reward = arms[selected_arm].draw()
            algorithms[i].update(selected_arm, reward)
            end_time = time.perf_counter()
            elapsed_time += end_time - start_time

            draw = j + 1
            avg_score[j,i] = scorers[0].update_score(draw, selected_arm, rewar
d)
            best_score[j,i] = scorers[1].update_score(draw, selected_arm, rewa
rd)
            cum_score[j,i] = scorers[2].update_score(draw, selected_arm, rewar
d)

        elapsed_time *= 1000000
        avg_elapsed_time = elapsed_time / float(num_draws)

        print('>>> MAB {0}: {1}\navg_reward: {2}, best_selected: {3}, total
```

```
        print('>>> MAB {0}\navg_reward: {1}, best_selected: {3}, total_
time: {4:4.2f} µs, '
              'avg_time: {5:3.2f} µs\n'.format(i + 1, str(algorithms[i]),
                                               avg_score[num_draws-1,i],
                                               best_score[num_draws-1,i],
                                               elapsed_time, avg_elapsed_tim
e))

    return {'avg':avg_score, 'best':best_score , 'cum':cum_score }

def benchmark_mab_context(algorithm, num_draws, advice):
    avg_score = np.zeros(num_draws)
    best_score = np.zeros_like(avg_score)
    cum_score = np.zeros_like(avg_score)

    scorers = [
        sc.AverageRewardScorer(),
        sc.BestArmSelectedScorer(arms),
        sc.CumulativeRewardScorer()
    ]

    elapsed_time = 0.0

    for j in range(num_draws):
        start_time = time.perf_counter()
        selected_arm = algorithm.select_arm(advice)
        reward = arms[selected_arm].draw()
        algorithm.update(selected_arm, reward)
        end_time = time.perf_counter()
        elapsed_time += end_time - start_time


        # weights: the degree of belief in the expert (N experts)
        # probabilities: the estimated confidence for each arm (K arms)
        print('iter {}, selected_arm: {}, reward_of_selected_arm: {}, weights
: {}, '
              'probs: {}'.format(j + 1, selected_arm, reward, algorithm.weigh
ts, algorithm.probabilities))


        draw = j + 1
        avg_score[j] = scorers[0].update_score(draw, selected_arm, reward)
        best_score[j] = scorers[1].update_score(draw, selected_arm, reward)
        cum_score[j] = scorers[2].update_score(draw, selected_arm, reward)

    elapsed_time *= 1000000
    avg_elapsed_time = elapsed_time / float(num_draws)

    print('>>> MAB {0}\navg_reward: {1}, best_selected: {2}, total_time: {3:
4.2f} µs, '
          'avg_time: {4:3.2f} µs\n'.format(str(algorithm),
                                           avg_score[j],
                                           best_score[j],
                                           elapsed_time, avg_elapsed_time))

    return {'avg':avg_score, 'best':best_score , 'cum':cum_score }
```

In [4]:

```
def plot_results(algorithms, avg_score, best_score, cum_score):
    sns.set_style('white')
    sns.set_context('talk')
    plt.figure(figsize=(15, 14))
    plt.subplot(2, 1, 1)
    plt.plot(avg_score)
    plt.ylabel('Average Reward')
    plt.legend(algorithms, loc=4)
    plt.subplot(2, 1, 2)
    plt.plot(best_score * 100)
    plt.ylim(0, 100)
    plt.ylabel('% Optimal Action')
    plt.xlabel('Time Step')
    sns.despine()
    plt.show()
```

ϵ-greedy 알고리즘

- ϵ 확률로 random하게 탐색
- $1 - \epsilon$의 확률로 greedy하게 가장 좋은 arm을 선택
- ϵ이 크면 탐색의 비중이 높아지고 ϵ이 작으면 획득의 비중이 높아짐.

- ϵ 값에 따른 차이
  - $\epsilon = 1$: Random하게 탐색하기 때문에, Optimal Action의 선택 확률이 매우 낮음
  - $\epsilon = 0$: Greedy하게 탐색하기 때문에, Average Reward가 Random 대비 높으나 Optimal Action의 선택 확률이 일정 시점 이후에 증가하지 않음.
  - $\epsilon = 0.01$: Optimal Action의 선택 확률이 점진적으로 증가하지만 수렴 속도가 더딤.
  - $\epsilon = 0.1$: 일반적으로 쓰이는 세팅값이나 환경에 따라 조절 필요

In [5]:

```
# MAB 알고리즘 설정
algorithms = [
    bd.EpsilonGreedyAlgorithm(num_arms, 1), # Random
    bd.EpsilonGreedyAlgorithm(num_arms, 0), # Greedy
    bd.EpsilonGreedyAlgorithm(num_arms, 0.01),
    bd.EpsilonGreedyAlgorithm(num_arms, 0.1),
]
```

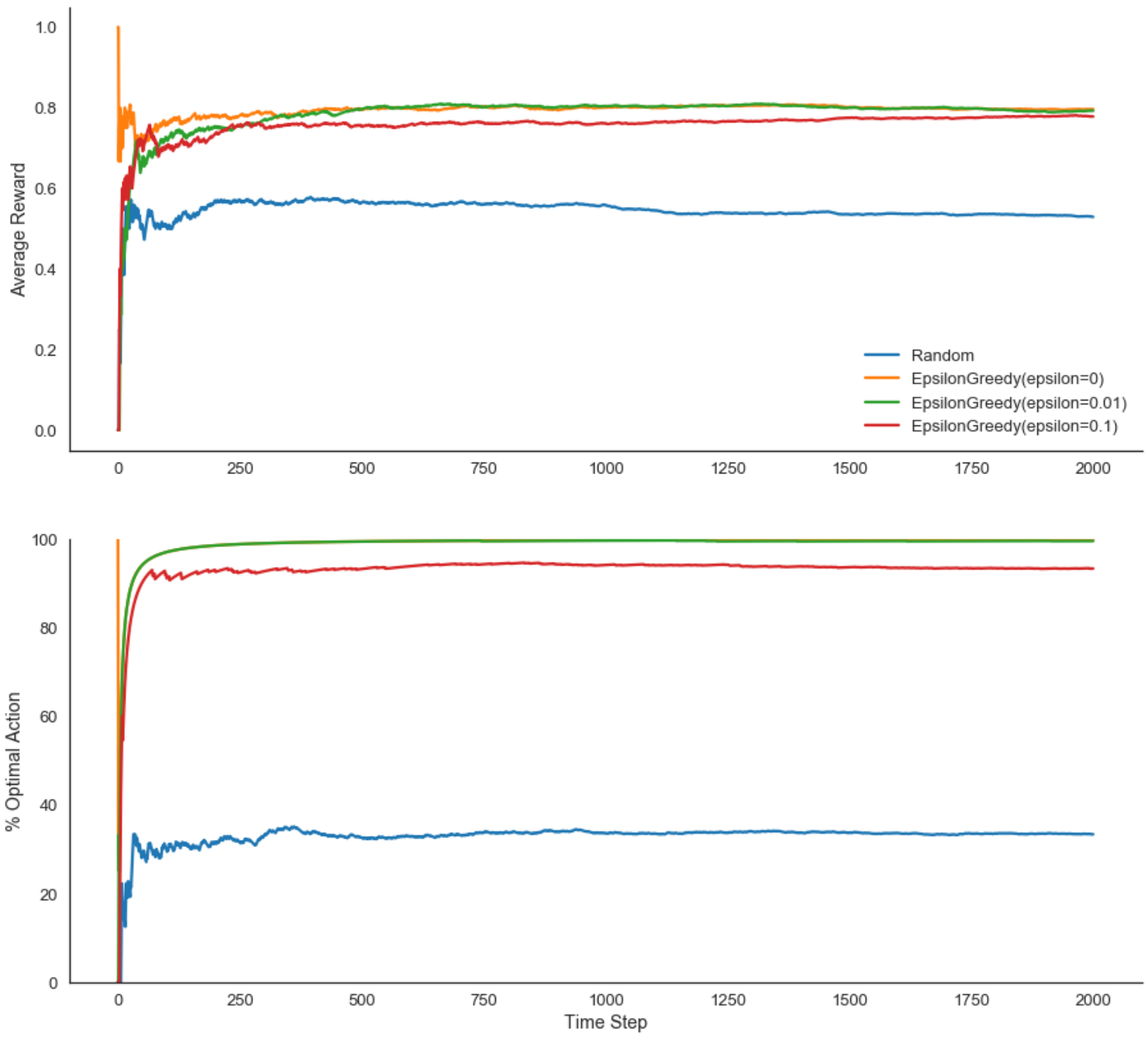
In [6]:

```
scores = benchmark_mab(algorithms, num_draws)
```

```
>>> MAB 1: Random
avg_reward: 0.529, best_selected: 0.3335, total_time: 26015.01 µs,
avg_time: 13.01 µs

>>> MAB 2: EpsilonGreedy(epsilon=0)
avg_reward: 0.7965, best_selected: 0.9985, total_time: 50180.10 µs
, avg_time: 25.09 µs

>>> MAB 3: EpsilonGreedy(epsilon=0.01)
avg_reward: 0.7925, best_selected: 0.995, total_time: 52397.10 µs,
avg_time: 26.20 µs

>>> MAB 4: EpsilonGreedy(epsilon=0.1)
avg_reward: 0.778, best_selected: 0.933, total_time: 53586.23 µs,
avg_time: 26.79 µs
```

In [7]:

```
plot_results(algorithms, scores['avg'], scores['best'], scores['cum'])
```



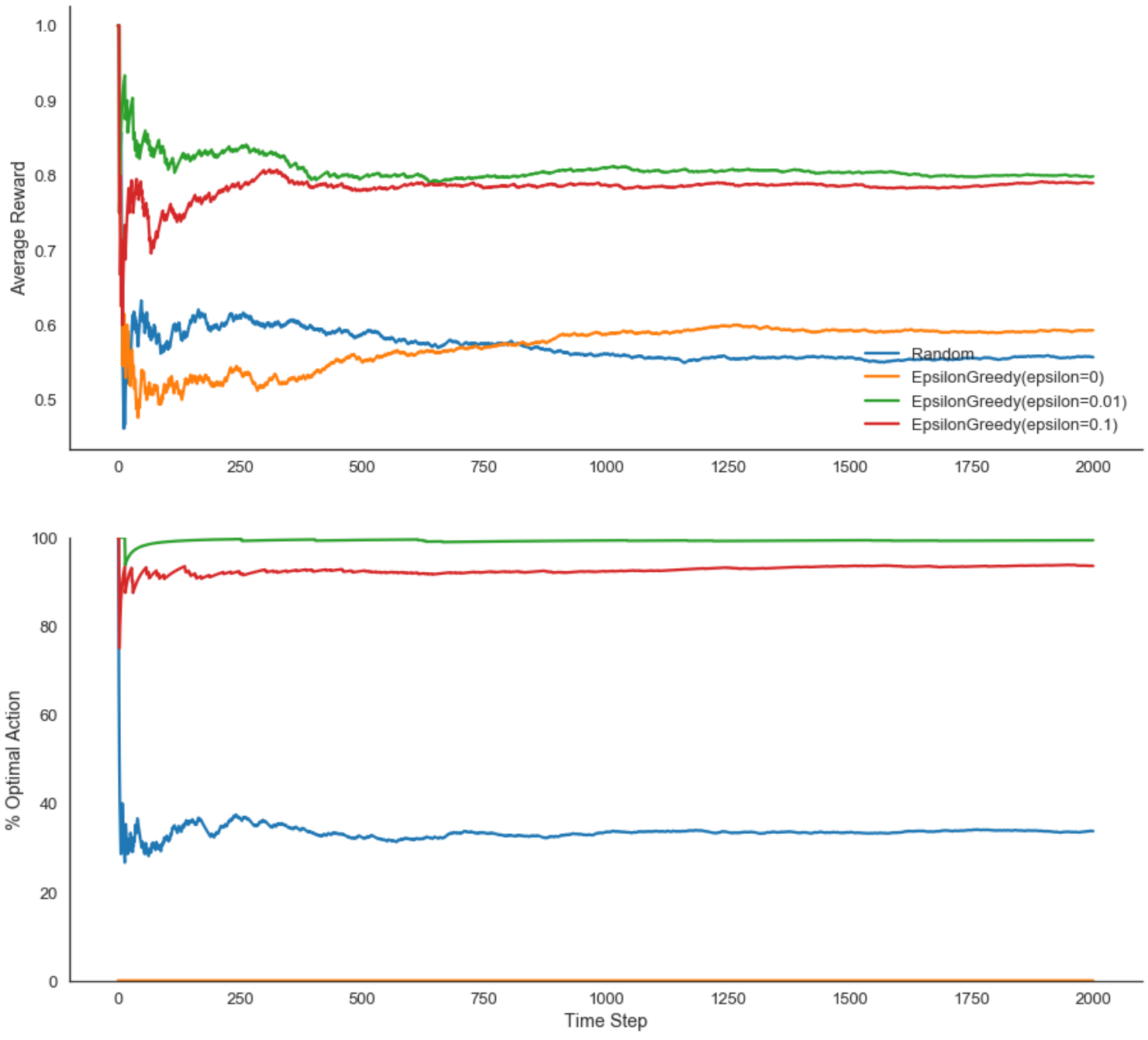
In [8]:

```
scores = benchmark_mab(algorithms, num_draws)
```

```
>>> MAB 1: Random
avg_reward: 0.5575, best_selected: 0.338, total_time: 27388.17 µs,
avg_time: 13.69 µs

>>> MAB 2: EpsilonGreedy(epsilon=0)
avg_reward: 0.789, best_selected: 1.0, total_time: 47970.27 µs, av
g_time: 23.99 µs

>>> MAB 3: EpsilonGreedy(epsilon=0.01)
avg_reward: 0.789, best_selected: 0.9915, total_time: 45938.91 µs,
avg_time: 22.97 µs

>>> MAB 4: EpsilonGreedy(epsilon=0.1)
avg_reward: 0.7755, best_selected: 0.9265, total_time: 52916.56 µs
, avg_time: 26.46 µs
```

In [9]:

```
plot_results(algorithms, scores['avg'], scores['best'], scores['cum'])
```



UCB(Upper Confidence Bound)

- Upper Confidence Bound(이하 UCB)를 설정하여 reward에 대한 불확실성을 고려
  - As-is: 주사위를 여러 번 던졌을 때 기대값은 3.5이지만, 두 번만 던졌을 때 눈금이 1, 3이 나오면 기대값이 2가 나오므로 실제 기대값과 편차가 심함
  - To-be: 주사위를 두 번만 던졌을 때 [2, 5.2]의 범위로 Confidence Interval을 정하고 횟수가 증가할 수록 Confidence Interval을 감소시켜 불확실성을 줄임

- 직관적 이해
  - 계속 특정 arm만 선택하면 UCB term이 작아지므로 Confidence Interval이 감소하여 탐색 빈도 감소 ($N_t(a)$ 가 증가하므로)
  - log의 역할은 UCB decay로 점차 Confidence Interval을 감소시키는 역할
  - 선택되지 않은 arm은 Confidence Interval이 감소하여 탐색 빈도 증가

In [9]:

```
# MAB 알고리즘 설정
algorithms = [
    bd.EpsilonGreedyAlgorithm(num_arms, 0.1),
    bd.UCB1Algorithm(num_arms),
    bd.UCBTunedAlgorithm(num_arms),
    bd.UCBVAlgorithm(num_arms, 0.1)
]
```

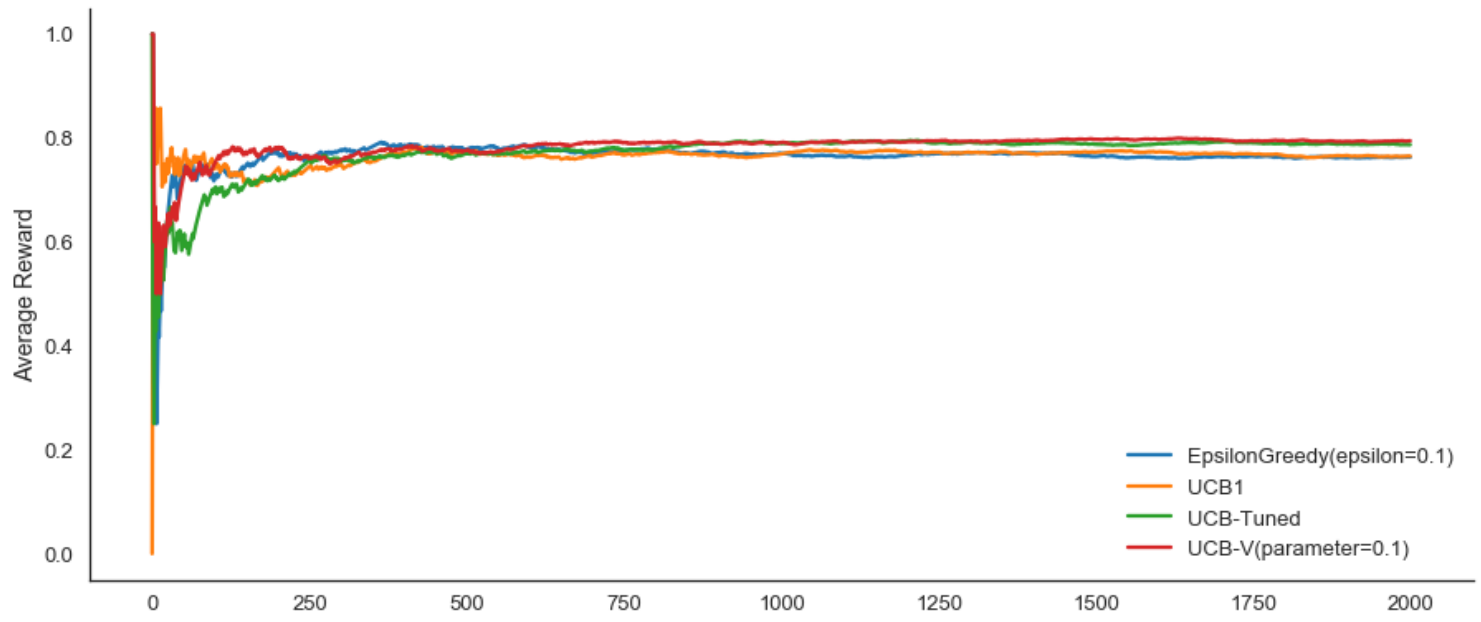
In [10]:

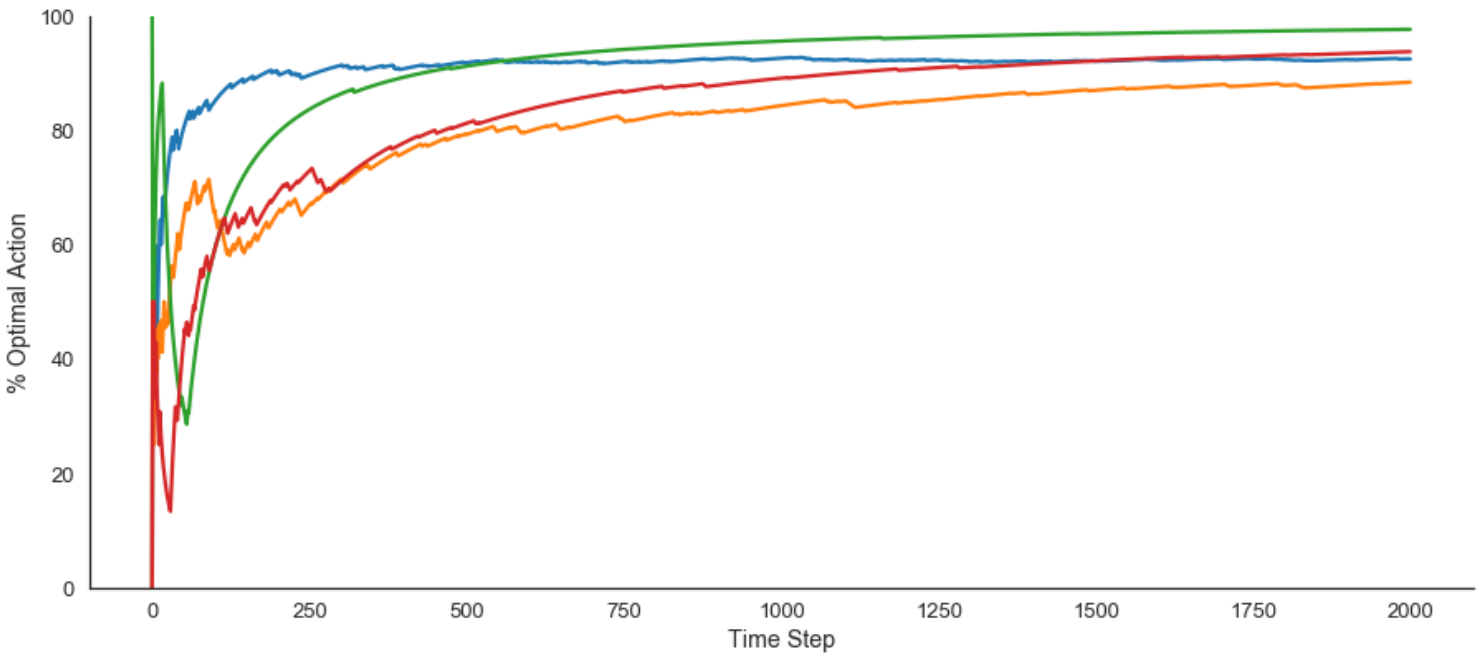
```
scores = benchmark_mab(algorithms, num_draws)
```

```
>>> MAB 1: EpsilonGreedy(epsilon=0.1)
avg_reward: 0.763, best_selected: 0.9245, total_time: 55362.72 µs,
avg_time: 27.68 µs

>>> MAB 2: UCB1
avg_reward: 0.765, best_selected: 0.884, total_time: 74527.08 µs,
avg_time: 37.26 µs

>>> MAB 3: UCB-Tuned
avg_reward: 0.787, best_selected: 0.9765, total_time: 88698.55 µs,
avg_time: 44.35 µs

>>> MAB 4: UCB-V(parameter=0.1)
avg_reward: 0.7945, best_selected: 0.9375, total_time: 88909.09 µs
, avg_time: 44.45 µs
```

In [11]:

```
plot_results(algorithms, scores['avg'], scores['best'], scores['cum'])
```





TS(Thompson Sampling)

- Beta 분포를 prior로 가정
- Bandit의 분포를 베르누이 분포나 이항 분포의 형태를 가지는 likelihood로 가정하여 확률 분포 모델링

In [12]:

```
# MAB 알고리즘 설정
algorithms = [
    bd.UCB1Algorithm(num_arms),
    bd.BayesBanditAlgorithm(num_arms)
]
```

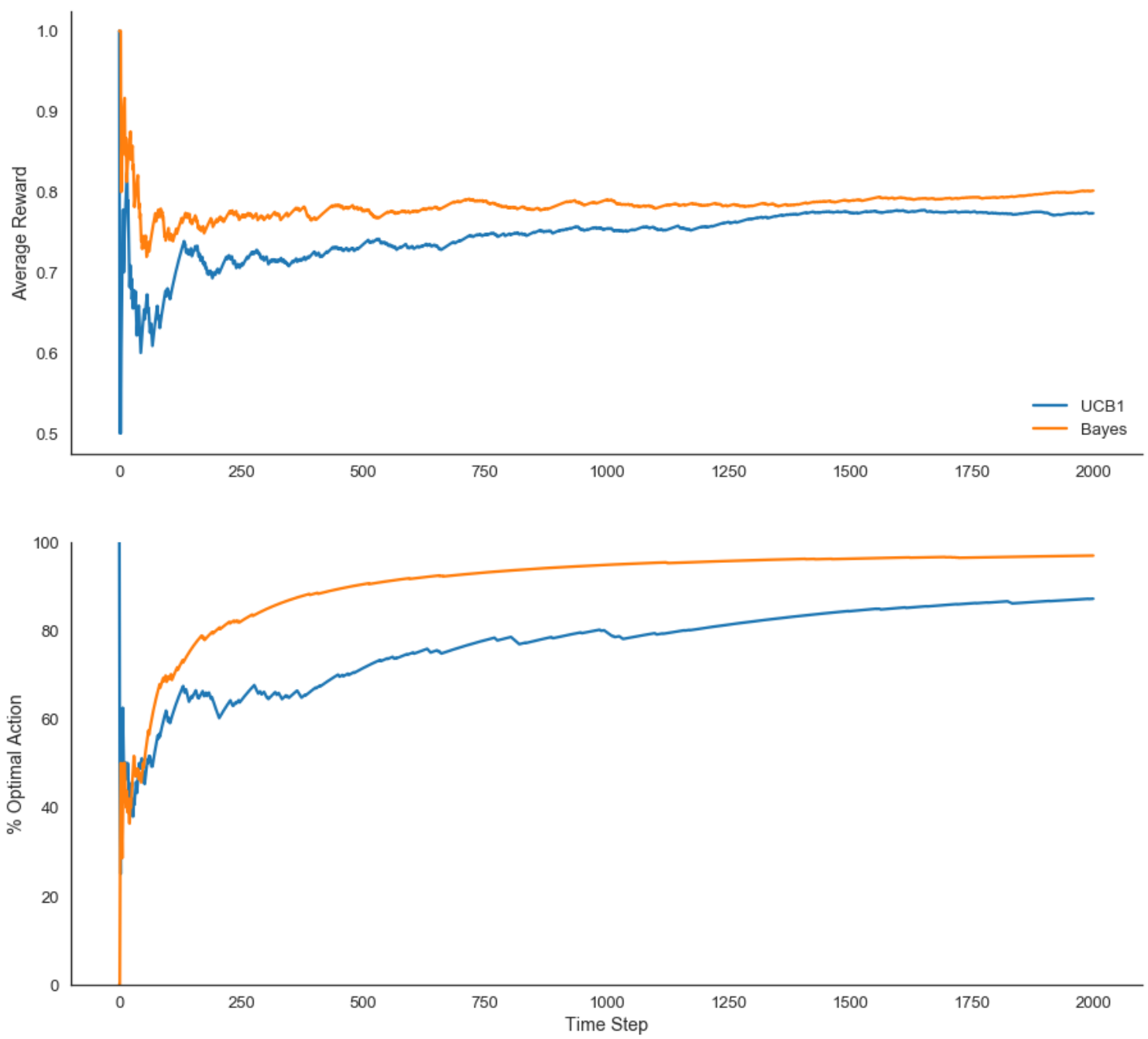
In [13]:

```
scores = benchmark_mab(algorithms, num_draws)
```

```
>>> MAB 1: UCB1
avg_reward: 0.7805, best_selected: 0.9045, total_time: 72127.81 µs
, avg_time: 36.06 µs

>>> MAB 2: Bayes
avg_reward: 0.805, best_selected: 0.995, total_time: 55401.44 µs,
avg_time: 27.70 µs
```

In [15]:

```
plot_results(algorithms, scores['avg'], scores['best'], scores['cum'])
```



Exp4

- Contextual & Adversarial MAB
- Adversarial MAB이므로 Adversary가 행동을 예측하지 못하게 랜덤하게 arm을 선택
- 단, 전문가들의 의견을 가중치로 반영하고(contextual), 선택되지 않은 arm에 대한 결과도 반영

In [14]:

```
#advice = np.array([0.49, 0.36, 0.15])
advice = np.array([[0.49, 0.36, 0.15],  # sum of each row = 1
                   [0.4, 0.3, 0.3],
                   [0.9, 0.1, 0.0],
                   [0.2, 0.3, 0.5]])  # expert 3([0.9, 0.1, 0.0]) recommends b
est!
print('advice:\n{}'.format(advice))
if advice.ndim == 1:
    num_experts = 1
else:
    num_experts = advice.shape[0]
algorithm = bd.Exp4Algorithm(num_arms, num_experts, 0.1)
#algorithm = bd.Exp4PAlgorithm(num_arms, num_experts, 0.01, num_draws)
print('algorithm: ' + str(algorithm))
print('number of experts: {}'.format(num_experts))
```

```
advice:
[[ 0.49  0.36  0.15]
 [ 0.4   0.3   0.3 ]
 [ 0.9   0.1   0.  ]
 [ 0.2   0.3   0.5 ]]
algorithm: Exp4(gamma=0.1)
number of experts: 4
```

In [15]:

```
scores = benchmark_mab_context(algorithm, num_draws, advice)
```

```
iter 1, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.2
4983099  0.24827791  0.25702999  0.2448611 ], probs: [ 0.48108333
0.27183333  0.24708333]
iter 2, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.2
4983099  0.24827791  0.25702999  0.2448611 ], probs: [ 0.48515814
0.27055881  0.24428305]
iter 3, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.2
4983099  0.24827791  0.25702999  0.2448611 ], probs: [ 0.48515814
0.27055881  0.24428305]
iter 4, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.2
4958582  0.24650526  0.26411389  0.23979503], probs: [ 0.48515814
0.27055881  0.24428305]
iter 5, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.2
4672042  0.24877303  0.25573168  0.24877487], probs: [ 0.48923793
0.26927047  0.2414916 ]
iter 6, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.2
465064   0.24702014  0.26283334  0.24364012], probs: [ 0.48361747
0.27062453  0.245758  ]
iter 7, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.2
465064   0.24702014  0.26283334  0.24364012], probs: [ 0.48772013
0.26933468  0.24294519]
iter 8, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.2
462176   0.24521774  0.26998582  0.23857885], probs: [ 0.48772013
0.26933468  0.24294519]
iter 9, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.2
4342482  0.24753699  0.26142329  0.2476149 ], probs: [ 0.49182638
0.26803164  0.24014198]
```

```
iter 10, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24316811  0.24575463  0.26859361  0.24248364], probs: [ 0.48612054
0.26942208  0.24445738]
iter 11, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
24616434  0.24693386  0.26325462  0.24364718], probs: [ 0.49025002
0.26811756  0.24163242]
iter 12, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
24616434  0.24693386  0.26325462  0.24364718], probs: [ 0.48788073
0.26924038  0.24287889]
iter 13, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24587302  0.24512966  0.27041285  0.23858447], probs: [ 0.48788073
0.26924038  0.24287889]
iter 14, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24550849  0.24327827  0.27761758  0.23359566], probs: [ 0.49198962
0.26793616  0.24007421]
iter 15, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
24550849  0.24327827  0.27761758  0.23359566], probs: [ 0.49610021
0.26661963  0.23728016]
iter 16, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
24550849  0.24327827  0.27761758  0.23359566], probs: [ 0.49610021
0.26661963  0.23728016]
iter 17, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
24550849  0.24327827  0.27761758  0.23359566], probs: [ 0.49610021
0.26661963  0.23728016]
iter 18, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
2450723   0.24138195  0.28486474  0.22868101], probs: [ 0.49610021
0.26661963  0.23728016]
iter 19, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24456602  0.23944293  0.29215028  0.22384076], probs: [ 0.50021074
0.26529158  0.23449767]
iter 20, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
2439913   0.23746346  0.29947017  0.21907507], probs: [ 0.50431947
0.26395285  0.23172768]
iter 21, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24334981  0.23544576  0.30682042  0.21438401], probs: [ 0.5084247
0.26260423  0.22897107]
iter 22, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
2409641   0.23834759  0.2971714   0.22351691], probs: [ 0.51252474
0.26124655  0.22622872]
iter 23, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
23847438  0.24105082  0.28779812  0.23267668], probs: [ 0.50634551
0.26285454  0.23079995]
iter 24, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23847438  0.24105082  0.28779812  0.23267668], probs: [ 0.50027711
0.26440729  0.2353156 ]
iter 25, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
2379802   0.23911311  0.29515571  0.22775098], probs: [ 0.50027711
0.26440729  0.2353156 ]
iter 26, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23741866  0.23713439  0.3025461   0.22290085], probs: [ 0.50443462
0.26305624  0.23250914]
iter 27, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23679143  0.23511694  0.30996522  0.21812642], probs: [ 0.50858784
0.26169564  0.22971652]
iter 28, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
23444929  0.23797723  0.30021152  0.22736196], probs: [ 0.51273503
0.26032633  0.22693864]
```

```
iter 29, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
23761169  0.23935279  0.29435935  0.22867617], probs: [ 0.50649376
0.26195552  0.23155072]
iter 30, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
24076055  0.24068868  0.28859831  0.22995247], probs: [ 0.50387988
0.26317968  0.23294044]
iter 31, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
24076055  0.24068868  0.28859831  0.22995247], probs: [ 0.50131273
0.26438671  0.23430056]
iter 32, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
24076055  0.24068868  0.28859831  0.22995247], probs: [ 0.50131273
0.26438671  0.23430056]
iter 33, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
24076055  0.24068868  0.28859831  0.22995247], probs: [ 0.50131273
0.26438671  0.23430056]
iter 34, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
24076055  0.24068868  0.28859831  0.22995247], probs: [ 0.50131273
0.26438671  0.23430056]
iter 35, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24024445  0.23873976  0.29593848  0.22507732], probs: [ 0.50131273
0.26438671  0.23430056]
iter 36, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23966101  0.23675061  0.30331099  0.2202774 ], probs: [ 0.50545153
0.26303761  0.23151086]
iter 37, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
2429064   0.23812961  0.29740354  0.22156045], probs: [ 0.50958589
0.26167905  0.22873506]
iter 38, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24229176  0.2361256   0.30475691  0.21682573], probs: [ 0.50695946
0.26291764  0.23012289]
iter 39, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
24557826  0.23750544  0.2988235   0.21809279], probs: [ 0.51107094
0.26156084  0.22736821]
iter 40, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
24557826  0.23750544  0.2988235   0.21809279], probs: [ 0.50843905
0.26280633  0.22875462]
iter 41, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
24557826  0.23750544  0.2988235   0.21809279], probs: [ 0.50843905
0.26280633  0.22875462]
iter 42, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
24309885  0.24030297  0.28941108  0.2271871 ], probs: [ 0.50843905
0.26280633  0.22875462]
iter 43, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24256017  0.2383429   0.29673348  0.22236345], probs: [ 0.50236565
0.26436668  0.23326767]
iter 44, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24195418  0.23634339  0.30408774  0.21761469], probs: [ 0.50648535
0.26301956  0.23049509]
iter 45, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24128259  0.23430667  0.31146987  0.21294087], probs: [ 0.51060046
0.26166307  0.22773647]
iter 46, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
24128259  0.23430667  0.31146987  0.21294087], probs: [ 0.51470931
0.26029802  0.22499268]
iter 47, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
24054714  0.23223494  0.31887592  0.208342  ], probs: [ 0.51470931
0.26029802  0.22499268]
```

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iter 48, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
23830276  0.23530231  0.30887362  0.21752131], probs: [ 0.51881026
0.25892521  0.22226453]
iter 49, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23761135  0.23325017  0.31630108  0.2128374 ], probs: [ 0.51247515
0.26060443  0.22692042]
iter 50, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23685739  0.23116374  0.32374987  0.208229  ], probs: [ 0.51660461
0.25923015  0.22416524]
iter 51, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
23685739  0.23116374  0.32374987  0.208229  ], probs: [ 0.520725
0.25784866  0.22142634]
iter 52, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23604266  0.22904521  0.33121609  0.20369605], probs: [ 0.520725
0.25784866  0.22142634]
iter 53, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23516896  0.22689674  0.3386959   0.1992384 ], probs: [ 0.52483474
0.25646074  0.21870452]
iter 54, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23516896  0.22689674  0.3386959   0.1992384 ], probs: [ 0.52893226
0.2550672   0.21600054]
iter 55, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23423812  0.22472045  0.34618553  0.1948559 ], probs: [ 0.52893226
0.2550672   0.21600054]
iter 56, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23325198  0.22251844  0.3536813   0.19054828], probs: [ 0.53301605
0.2536688   0.21331516]
iter 57, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23325198  0.22251844  0.3536813   0.19054828], probs: [ 0.53708464
0.25226631  0.21064906]
iter 58, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23221239  0.22029275  0.36117959  0.18631528], probs: [ 0.53708464
0.25226631  0.21064906]
iter 59, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23221239  0.22029275  0.36117959  0.18631528], probs: [ 0.5411366
0.25086048  0.20800292]
iter 60, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23112119  0.21804539  0.36867688  0.18215654], probs: [ 0.5411366
0.25086048  0.20800292]
iter 61, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
22998025  0.21577833  0.37616973  0.17807169], probs: [ 0.54517057
0.24945204  0.20537739]
iter 62, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
22879143  0.21349349  0.38365478  0.17406029], probs: [ 0.54918521
0.24804172  0.20277308]
iter 63, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
22755658  0.21119275  0.3911288   0.17012188], probs: [ 0.55317924
0.24663021  0.20019055]
iter 64, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
22755658  0.21119275  0.3911288   0.17012188], probs: [ 0.55715144
0.24521821  0.19763036]
iter 65, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
23141648  0.2130305   0.38395078  0.17160224], probs: [ 0.55715144
0.24521821  0.19763036]
iter 66, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
23526508  0.2148248   0.37686253  0.1730476 ], probs: [ 0.55396752
0.24671868  0.1993138 ]
```

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iter 67, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23402704  0.21253364  0.38429688  0.16914244], probs: [ 0.55082938
0.24820239  0.20096823]
iter 68, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
23402704  0.21253364  0.38429688  0.16914244], probs: [ 0.55477748
0.24679736  0.19842517]
iter 69, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23274308  0.2102277   0.39172042  0.16530881], probs: [ 0.55477748
0.24679736  0.19842517]
iter 70, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23141503  0.20790874  0.39913006  0.16154616], probs: [ 0.55870413
0.24539178  0.19590409]
iter 71, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
23540391  0.20976589  0.39184103  0.16298917], probs: [ 0.56260817
0.24398633  0.1934055 ]
iter 72, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
23540391  0.20976589  0.39184103  0.16298917], probs: [ 0.55939146
0.24551376  0.19509478]
iter 73, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23540391  0.20976589  0.39184103  0.16298917], probs: [ 0.55939146
0.24551376  0.19509478]
iter 74, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
23540391  0.20976589  0.39184103  0.16298917], probs: [ 0.55939146
0.24551376  0.19509478]
iter 75, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
23540391  0.20976589  0.39184103  0.16298917], probs: [ 0.55939146
0.24551376  0.19509478]
iter 76, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23405184  0.20744556  0.39922589  0.1592767 ], probs: [ 0.55939146
0.24551376  0.19509478]
iter 77, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
23405184  0.20744556  0.39922589  0.1592767 ], probs: [ 0.56327338
0.24411147  0.19261515]
iter 78, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23405184  0.20744556  0.39922589  0.1592767 ], probs: [ 0.56327338
0.24411147  0.19261515]
iter 79, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0.
23405184  0.20744556  0.39922589  0.1592767 ], probs: [ 0.56327338
0.24411147  0.19261515]
iter 80, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
23405184  0.20744556  0.39922589  0.1592767 ], probs: [ 0.56327338
0.24411147  0.19261515]
iter 81, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23265757  0.20511443  0.4065941   0.1556339 ], probs: [ 0.56327338
0.24411147  0.19261515]
iter 82, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23122291  0.20277414  0.4139428   0.15206014], probs: [ 0.56713184
0.2427099   0.19015825]
iter 83, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
23122291  0.20277414  0.4139428   0.15206014], probs: [ 0.57096582
0.24130967  0.18772451]
iter 84, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
23534899  0.20468903  0.40646585  0.15349612], probs: [ 0.57096582
0.24130967  0.18772451]
iter 85, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0.
23946435  0.2065603   0.39907597  0.15489938], probs: [ 0.56767693
0.24287833  0.18944474]
```

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iter 86, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23802298  0.20422861  0.40639583  0.15135258], probs: [ 0.56443224
0.24443073  0.19113702]
iter 87, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
23695446  0.20877048  0.3939932   0.16028185], probs: [ 0.56824785
0.24303533  0.18871682]
iter 88, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
2355729   0.20644624  0.40135588  0.15662498], probs: [ 0.56097285
0.2452101   0.19381705]
iter 89, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0.
23441015  0.21086563  0.3890747   0.16564952], probs: [ 0.56483239
0.24381021  0.1913574 ]
iter 90, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
23441015  0.21086563  0.3890747   0.16564952], probs: [ 0.55758726
0.24595804  0.19645471]
iter 91, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23308723  0.20855049  0.39647861  0.16188367], probs: [ 0.55758726
0.24595804  0.19645471]
iter 92, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
2317214   0.20622366  0.40386682  0.15818812], probs: [ 0.56148971
0.24455389  0.19395639]
iter 93, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
2317214   0.20622366  0.40386682  0.15818812], probs: [ 0.56536897
0.24315026  0.19148076]
iter 94, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
23031452  0.20388683  0.41123639  0.15456226], probs: [ 0.56536897
0.24315026  0.19148076]
iter 95, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
22886839  0.20154164  0.4185845   0.15100547], probs: [ 0.56922398
0.24174777  0.18902825]
iter 96, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0.
22886839  0.20154164  0.4185845   0.15100547], probs: [ 0.57305371
0.24034702  0.18659927]
iter 97, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
22738481  0.19918969  0.4259084   0.1475171 ], probs: [ 0.57305371
0.24034702  0.18659927]
iter 98, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0.
22738481  0.19918969  0.4259084   0.1475171 ], probs: [ 0.57685721
0.2389486   0.18419419]
iter 99, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0.
22586557  0.19683252  0.43320546  0.14409644], probs: [ 0.57685721
0.2389486   0.18419419]
iter 100, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22431243  0.19447163  0.44047313  0.14074281], probs: [ 0.5806335
4  0.23755309  0.18181337]
iter 101, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22272711  0.19210846  0.44770898  0.13745546], probs: [ 0.5843818
4  0.23616104  0.17945711]
iter 102, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.22704585  0.1941723   0.43984968  0.13893216], probs: [ 0.5881012
9  0.23477298  0.17712573]
iter 103, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22543827  0.19181071  0.44706467  0.13568635], probs: [ 0.5846486
2  0.23642087  0.17893052]
iter 104, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.22979512  0.193861    0.43920715  0.13713672], probs: [ 0.5883493
9  0.23503536  0.17661525]
```

```
iter 105, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22816521  0.19150123  0.44640142  0.13393215], probs: [ 0.5849053
5  0.23668498  0.17840967]
iter 106, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.22816521  0.19150123  0.44640142  0.13393215], probs: [ 0.5885875
7  0.235302    0.17611043]
iter 107, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.22816521  0.19150123  0.44640142  0.13393215], probs: [ 0.5885875
7  0.235302    0.17611043]
iter 108, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22650466  0.18914101  0.45356272  0.13079162], probs: [ 0.5885875
7  0.235302    0.17611043]
iter 109, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22481516  0.18678166  0.46068882  0.12771436], probs: [ 0.5922409
4  0.2339233   0.17383576]
iter 110, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22309837  0.18442445  0.46777758  0.12469959], probs: [ 0.5958647
4  0.23254936  0.17158589]
iter 111, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.22309837  0.18442445  0.46777758  0.12469959], probs: [ 0.5994582
9  0.23118068  0.16936103]
iter 112, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.22309837  0.18442445  0.46777758  0.12469959], probs: [ 0.5994582
9  0.23118068  0.16936103]
iter 113, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.22309837  0.18442445  0.46777758  0.12469959], probs: [ 0.5994582
9  0.23118068  0.16936103]
iter 114, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.22291769  0.18979649  0.45380154  0.13348428], probs: [ 0.5994582
9  0.23118068  0.16936103]
iter 115, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.22291769  0.18979649  0.45380154  0.13348428], probs: [ 0.5915731
9  0.23368661  0.1747402 ]
iter 116, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.22248947  0.19493058  0.44015337  0.14242659], probs: [ 0.5915731
9  0.23368661  0.1747402 ]
iter 117, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22092365  0.19256659  0.44740803  0.13910173], probs: [ 0.5837872
1  0.23612016  0.18009263]
iter 118, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.22092365  0.19256659  0.44740803  0.13910173], probs: [ 0.5875234
5  0.23472977  0.17774679]
iter 119, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21932724  0.19020141  0.45462831  0.13584303], probs: [ 0.5875234
5  0.23472977  0.17774679]
iter 120, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21770193  0.1878364   0.46181196  0.13264971], probs: [ 0.5912298
4  0.23334391  0.17542626]
iter 121, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21735323  0.19303049  0.44794703  0.14166925], probs: [ 0.5949056
3  0.23196308  0.17313129]
iter 122, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21735323  0.19303049  0.44794703  0.14166925], probs: [ 0.5870146
4  0.23443994  0.17854541]
iter 123, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21578802  0.19066354  0.45519656  0.13835188], probs: [ 0.5870146
4  0.23443994  0.17854541]
```

```
iter 124, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21578802  0.19066354  0.45519656  0.13835188], probs: [ 0.5907472
8  0.23305051  0.17620222]
iter 125, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21419394  0.1882964   0.46240873  0.13510094], probs: [ 0.5907472
8  0.23305051  0.17620222]
iter 126, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21851153  0.19044075  0.45440823  0.13663949], probs: [ 0.5944488
0.23166623  0.17388496]
iter 127, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21689556  0.18807512  0.46160099  0.13342833], probs: [ 0.5909213
6  0.23333947  0.17573916]
iter 128, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21689556  0.18807512  0.46160099  0.13342833], probs: [ 0.5946052
2  0.23195752  0.17343727]
iter 129, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21525225  0.18571082  0.46875486  0.13028207], probs: [ 0.5946052
2  0.23195752  0.17343727]
iter 130, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21499433  0.19098674  0.45471406  0.13930486], probs: [ 0.5982576
8  0.23058108  0.17116124]
iter 131, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21499433  0.19098674  0.45471406  0.13930486], probs: [ 0.5902943
3  0.2330945   0.17661118]
iter 132, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2134109   0.18861909  0.46193715  0.13603287], probs: [ 0.5902943
3  0.2330945   0.17661118]
iter 133, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21180011  0.18625238  0.46912067  0.13282685], probs: [ 0.5940054
2  0.23170884  0.17428575]
iter 134, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21016357  0.18388792  0.47626252  0.12968598], probs: [ 0.5976846
1  0.23032882  0.17198657]
iter 135, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21454421  0.18608821  0.46812986  0.13123772], probs: [ 0.6013312
4  0.22895491  0.16971385]
iter 136, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21288592  0.18372546  0.47525429  0.12813433], probs: [ 0.5977470
6  0.23065535  0.17159759]
iter 137, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21120334  0.18136633  0.48233578  0.12509455], probs: [ 0.6013773
4  0.2292834   0.16933926]
iter 138, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21120334  0.18136633  0.48233578  0.12509455], probs: [ 0.6049748
9  0.22791787  0.16710724]
iter 139, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21566196  0.18357709  0.47414157  0.12661938], probs: [ 0.6049748
9  0.22791787  0.16710724]
iter 140, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21566196  0.18357709  0.47414157  0.12661938], probs: [ 0.6013741
7  0.2296336   0.16899223]
iter 141, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21550252  0.18894996  0.45997825  0.13556927], probs: [ 0.6013741
7  0.2296336   0.16899223]
iter 142, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21550252  0.18894996  0.45997825  0.13556927], probs: [ 0.5933767
8  0.23217438  0.17444883]
```

```
iter 143, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21981914  0.1910816   0.45200058  0.13709869], probs: [ 0.5933767
8  0.23217438  0.17444883]
iter 144, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21981914  0.1910816   0.45200058  0.13709869], probs: [ 0.5898611
8  0.23384346  0.17629536]
iter 145, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21820508  0.18871631  0.4591987   0.13387991], probs: [ 0.5898611
8  0.23384346  0.17629536]
iter 146, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21656316  0.18635201  0.46635878  0.13072605], probs: [ 0.5935489
8  0.23246064  0.17399038]
iter 147, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21489501  0.18398999  0.4734787   0.12763629], probs: [ 0.5972057
1  0.23108316  0.17171113]
iter 148, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21471459  0.18934056  0.45932642  0.13661843], probs: [ 0.6008307
1  0.2297115   0.16945779]
iter 149, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21310636  0.18697381  0.46651776  0.13340207], probs: [ 0.5928307
9  0.23224916  0.17492005]
iter 150, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21310636  0.18697381  0.46651776  0.13340207], probs: [ 0.5965155
7  0.23086788  0.17261655]
iter 151, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21310636  0.18697381  0.46651776  0.13340207], probs: [ 0.5965155
7  0.23086788  0.17261655]
iter 152, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21744474  0.1891346   0.45847691  0.13494375], probs: [ 0.5965155
7  0.23086788  0.17261655]
iter 153, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21744474  0.1891346   0.45847691  0.13494375], probs: [ 0.5929710
9  0.23254951  0.1744794 ]
iter 154, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21744474  0.1891346   0.45847691  0.13494375], probs: [ 0.5929710
9  0.23254951  0.1744794 ]
iter 155, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21744474  0.1891346   0.45847691  0.13494375], probs: [ 0.5929710
9  0.23254951  0.1744794 ]
iter 156, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21581467  0.18676945  0.46564941  0.13176648], probs: [ 0.5929710
9  0.23254951  0.1744794 ]
iter 157, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21415818  0.18440633  0.4727818   0.12865369], probs: [ 0.5966385
9  0.23117043  0.17219098]
iter 158, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21247686  0.1820465   0.47987207  0.12560457], probs: [ 0.6002742
9  0.22979715  0.16992856]
iter 159, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21693426  0.18424529  0.47169881  0.12712165], probs: [ 0.6038775
7  0.22843011  0.16769232]
iter 160, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21693426  0.18424529  0.47169881  0.12712165], probs: [ 0.6002875
7  0.230142    0.16957043]
iter 161, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21523111  0.18188751  0.47877252  0.12410887], probs: [ 0.6002875
7  0.230142    0.16957043]
```

```
iter 162, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21972702  0.18407068  0.47060377  0.12559853], probs: [ 0.6038750
9  0.22877676  0.16734815]
iter 163, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21800197  0.18171517  0.47766098  0.12262189], probs: [ 0.6002951
8  0.23048991  0.1692149 ]
iter 164, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21800197  0.18171517  0.47766098  0.12262189], probs: [ 0.6038669
9  0.22912646  0.16700654]
iter 165, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21625338  0.17936434  0.48467562  0.11970666], probs: [ 0.6038669
9  0.22912646  0.16700654]
iter 166, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2144828   0.17701932  0.49164585  0.11685203], probs: [ 0.6074066
9  0.22776941  0.16482391]
iter 167, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21269175  0.1746812   0.49856993  0.11405713], probs: [ 0.6109137
1  0.22641915  0.16266714]
iter 168, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21088169  0.17235099  0.5054462   0.11132112], probs: [ 0.6143875
5  0.2250761   0.16053635]
iter 169, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21088169  0.17235099  0.5054462   0.11132112], probs: [ 0.6178277
4  0.22374063  0.15843163]
iter 170, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20905409  0.17002969  0.51227309  0.10864314], probs: [ 0.6178277
4  0.22374063  0.15843163]
iter 171, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21377254  0.17231088  0.50381585  0.11010074], probs: [ 0.6212338
4  0.2224131   0.15635306]
iter 172, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21377254  0.17231088  0.50381585  0.11010074], probs: [ 0.6175479
1  0.2241902   0.15826189]
iter 173, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21377254  0.17231088  0.50381585  0.11010074], probs: [ 0.6175479
1  0.2241902   0.15826189]
iter 174, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21192267  0.16999198  0.51063257  0.10745277], probs: [ 0.6175479
1  0.2241902   0.15826189]
iter 175, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21005648  0.16768294  0.51739927  0.10486131], probs: [ 0.6209422
3  0.22286329  0.15619448]
iter 176, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20817535  0.16538462  0.52411452  0.10232551], probs: [ 0.6243025
4  0.22154452  0.15415294]
iter 177, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20817535  0.16538462  0.52411452  0.10232551], probs: [ 0.6276284
8  0.22023419  0.15213733]
iter 178, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21299861  0.16768672  0.51556483  0.10374984], probs: [ 0.6276284
8  0.22023419  0.15213733]
iter 179, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21109486  0.16539079  0.52227262  0.10124173], probs: [ 0.6239154
2  0.22203359  0.15405099]
iter 180, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21109486  0.16539079  0.52227262  0.10124173], probs: [ 0.6272311
8  0.22072338  0.15204543]
```

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iter 181, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20917731  0.16310641  0.52892849  0.09878779], probs: [ 0.6272311
8  0.22072338  0.15204543]
iter 182, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21407109  0.16540779  0.52033946  0.10018165], probs: [ 0.6305127
1  0.21942178  0.15006551]
iter 183, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21407109  0.16540779  0.52033946  0.10018165], probs: [ 0.6267931
5  0.22123207  0.15197478]
iter 184, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2121307   0.16312586  0.52698915  0.09775429], probs: [ 0.6267931
5  0.22123207  0.15197478]
iter 185, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21017762  0.16085623  0.53358651  0.09537964], probs: [ 0.6300652
6  0.21993034  0.15000439]
iter 186, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21017762  0.16085623  0.53358651  0.09537964], probs: [ 0.6333033
1  0.21863735  0.14805933]
iter 187, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21017762  0.16085623  0.53358651  0.09537964], probs: [ 0.6333033
1  0.21863735  0.14805933]
iter 188, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21017762  0.16085623  0.53358651  0.09537964], probs: [ 0.6333033
1  0.21863735  0.14805933]
iter 189, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21017762  0.16085623  0.53358651  0.09537964], probs: [ 0.6333033
1  0.21863735  0.14805933]
iter 190, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20821314  0.15859967  0.54013034  0.09305685], probs: [ 0.6333033
1  0.21863735  0.14805933]
iter 191, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20623853  0.15635689  0.54661952  0.09078505], probs: [ 0.6365070
2  0.21735338  0.1461396 ]
iter 192, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20425502  0.15412858  0.553053    0.0885634 ], probs: [ 0.6396761
3  0.2160787   0.14424517]
iter 193, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20226379  0.15191537  0.5594298   0.08639104], probs: [ 0.6428104
3  0.21481356  0.14237601]
iter 194, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20026599  0.14971787  0.56574902  0.08426712], probs: [ 0.6459097
2  0.21355821  0.14053206]
iter 195, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20536369  0.15208943  0.55694495  0.08560193], probs: [ 0.6489738
6  0.21231287  0.13871327]
iter 196, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21047758  0.15442786  0.54817647  0.08691809], probs: [ 0.6451846
7  0.21417288  0.14064245]
iter 197, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21047758  0.15442786  0.54817647  0.08691809], probs: [ 0.6414161
7  0.21602736  0.14255647]
iter 198, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20843809  0.15221787  0.55455568  0.08478836], probs: [ 0.6414161
7  0.21602736  0.14255647]
iter 199, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21359197  0.15453583  0.54579269  0.08607951], probs: [ 0.6445049
7  0.21476897  0.14072606]
```

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iter 200, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21152837  0.15232792  0.55217229  0.08397141], probs: [ 0.6407466
8  0.21662462  0.1426287 ]
iter 201, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21672179  0.15462523  0.54341518  0.08523781], probs: [ 0.6438298
1  0.21536485  0.14080534]
iter 202, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.22192654  0.15688751  0.53470104  0.08648491], probs: [ 0.6400818
2  0.21722158  0.1426966 ]
iter 203, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.22192654  0.15688751  0.53470104  0.08648491], probs: [ 0.6363575
7  0.21907118  0.14457125]
iter 204, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.22192654  0.15688751  0.53470104  0.08648491], probs: [ 0.6363575
7  0.21907118  0.14457125]
iter 205, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.22192654  0.15688751  0.53470104  0.08648491], probs: [ 0.6363575
7  0.21907118  0.14457125]
iter 206, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21982372  0.15467007  0.54113225  0.08437396], probs: [ 0.6363575
7  0.21907118  0.14457125]
iter 207, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21771195  0.15246724  0.54751112  0.08230969], probs: [ 0.6394612
5  0.21780001  0.14273874]
iter 208, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21559245  0.15027962  0.55383663  0.0802913 ], probs: [ 0.6425322
6  0.21653778  0.14092996]
iter 209, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21711824  0.1568804   0.53806979  0.08793157], probs: [ 0.6455703
7  0.21528473  0.13914489]
iter 210, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.22227179  0.15913881  0.52939197  0.08919742], probs: [ 0.6372236
3  0.21820516  0.14457121]
iter 211, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.22227179  0.15913881  0.52939197  0.08919742], probs: [ 0.6335082
0.22004546  0.14644634]
iter 212, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.22227179  0.15913881  0.52939197  0.08919742], probs: [ 0.6335082
0.22004546  0.14644634]
iter 213, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22019271  0.15690547  0.53587682  0.08702499], probs: [ 0.6335082
0.22004546  0.14644634]
iter 214, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21810355  0.15468614  0.54230994  0.08490037], probs: [ 0.6366490
1  0.21876591  0.14458507]
iter 215, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21600554  0.15248146  0.54869026  0.08282274], probs: [ 0.6397571
3  0.21749514  0.14274774]
iter 216, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21600554  0.15248146  0.54869026  0.08282274], probs: [ 0.6428323
0.21623339  0.14093431]
iter 217, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21741225  0.15901711  0.53301407  0.09055658], probs: [ 0.6428323
0.21623339  0.14093431]
iter 218, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21536925  0.15677981  0.53950162  0.08834931], probs: [ 0.6344998
7  0.21913106  0.14636907]
```

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iter 219, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21331657  0.15455668  0.54593608  0.08619067], probs: [ 0.6376511
0.21785298  0.14449592]
iter 220, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21331657  0.15455668  0.54593608  0.08619067], probs: [ 0.6407688
9  0.21658393  0.14264717]
iter 221, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21125543  0.15234835  0.55231641  0.08407982], probs: [ 0.6407688
9  0.21658393  0.14264717]
iter 222, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20918702  0.15015542  0.55864163  0.08201593], probs: [ 0.6438530
4  0.21532417  0.14082279]
iter 223, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2071125   0.14797848  0.56491084  0.07999818], probs: [ 0.6469033
5  0.21407394  0.13902271]
iter 224, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.2071125   0.14797848  0.56491084  0.07999818], probs: [ 0.6499196
5  0.21283346  0.13724689]
iter 225, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.2071125   0.14797848  0.56491084  0.07999818], probs: [ 0.6499196
5  0.21283346  0.13724689]
iter 226, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20503299  0.14581806  0.57112319  0.07802576], probs: [ 0.6499196
5  0.21283346  0.13724689]
iter 227, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20294957  0.14367467  0.57727791  0.07609785], probs: [ 0.6529018
0.21160294  0.13549526]
iter 228, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20086331  0.14154877  0.58337428  0.07421364], probs: [ 0.6558496
9  0.21038259  0.13376772]
iter 229, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20616807  0.14390451  0.57447867  0.07544875], probs: [ 0.6587632
3  0.20917258  0.13206419]
iter 230, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20405607  0.14177945  0.58058269  0.0735818 ], probs: [ 0.6549675
8  0.21106025  0.13397218]
iter 231, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20194199  0.1396722   0.5866285   0.07175731], probs: [ 0.6578793
6  0.20984748  0.13227316]
iter 232, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.2073082   0.14201585  0.57771459  0.07296137], probs: [ 0.6607571
5  0.20864507  0.13059778]
iter 233, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.2073082   0.14201585  0.57771459  0.07296137], probs: [ 0.6569638
2  0.21053935  0.13249683]
iter 234, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.2073082   0.14201585  0.57771459  0.07296137], probs: [ 0.6569638
2  0.21053935  0.13249683]
iter 235, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.2073082   0.14201585  0.57771459  0.07296137], probs: [ 0.6569638
2  0.21053935  0.13249683]
iter 236, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21269595  0.14432914  0.56882508  0.07414983], probs: [ 0.6569638
2  0.21053935  0.13249683]
iter 237, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21269595  0.14432914  0.56882508  0.07414983], probs: [ 0.6531860
2  0.2124304   0.13438358]
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iter 238, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21269595  0.14432914  0.56882508  0.07414983], probs: [ 0.6531860
2  0.2124304   0.13438358]
iter 239, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21053245  0.14220642  0.57494374  0.07231739], probs: [ 0.6531860
2  0.2124304   0.13438358]
iter 240, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.21247755  0.14903138  0.55879797  0.0796931 ], probs: [ 0.6560940
1  0.21121221  0.13269377]
iter 241, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21036392  0.14686701  0.56503761  0.07773146], probs: [ 0.6476583
4  0.21422349  0.13811817]
iter 242, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21567596  0.14916832  0.55620626  0.07894946], probs: [ 0.6506480
7  0.21298622  0.13636571]
iter 243, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21567596  0.14916832  0.55620626  0.07894946], probs: [ 0.646885
0.21486271  0.13825229]
iter 244, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21353744  0.14700591  0.5624494   0.07700725], probs: [ 0.646885
0.21486271  0.13825229]
iter 245, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21139403  0.14486006  0.56863721  0.0751087 ], probs: [ 0.6498707
9  0.21362346  0.13650575]
iter 246, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20924683  0.14273124  0.5747689   0.07325303], probs: [ 0.6528234
3  0.21239391  0.13478266]
iter 247, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20709689  0.14061992  0.58084373  0.07143946], probs: [ 0.6557427
9  0.21117426  0.13308295]
iter 248, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20494525  0.13852653  0.58686103  0.06966719], probs: [ 0.6586287
6  0.20996469  0.13140655]
iter 249, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20494525  0.13852653  0.58686103  0.06966719], probs: [ 0.6614812
7  0.20876539  0.12975334]
iter 250, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.20494525  0.13852653  0.58686103  0.06966719], probs: [ 0.6614812
7  0.20876539  0.12975334]
iter 251, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20494525  0.13852653  0.58686103  0.06966719], probs: [ 0.6614812
7  0.20876539  0.12975334]
iter 252, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20279289  0.13645146  0.59282018  0.06793546], probs: [ 0.6614812
7  0.20876539  0.12975334]
iter 253, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20279289  0.13645146  0.59282018  0.06793546], probs: [ 0.6643002
6  0.20757652  0.12812323]
iter 254, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.20500333  0.14342824  0.57634541  0.07522302], probs: [ 0.6643002
6  0.20757652  0.12812323]
iter 255, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.20500333  0.14342824  0.57634541  0.07522302], probs: [ 0.6557539
0.21066134  0.13358477]
iter 256, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20289679  0.14130648  0.58243612  0.07336061], probs: [ 0.6557539
0.21066134  0.13358477]
```

```
iter 257, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20823772  0.14364792  0.57353816  0.0745762 ], probs: [ 0.6586593
2  0.20945126  0.13188943]
iter 258, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2061054   0.14152715  0.57963647  0.07273098], probs: [ 0.6548690
4  0.2113413   0.13378965]
iter 259, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20397101  0.13942419  0.58567706  0.07092774], probs: [ 0.6577727
0.21012846  0.13209884]
iter 260, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.20601915  0.1463274   0.56931021  0.07834324], probs: [ 0.6606426
7  0.2089259   0.13043143]
iter 261, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20393233  0.14418038  0.5754787   0.07640858], probs: [ 0.6521087
0.21198253  0.13590877]
iter 262, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20184239  0.14205075  0.58158913  0.07451773], probs: [ 0.6550637
2  0.21075951  0.13417676]
iter 263, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.20184239  0.14205075  0.58158913  0.07451773], probs: [ 0.6579844
8  0.20954678  0.13246874]
iter 264, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.20184239  0.14205075  0.58158913  0.07451773], probs: [ 0.6579844
8  0.20954678  0.13246874]
iter 265, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19975035  0.13993894  0.58764083  0.07266988], probs: [ 0.6579844
8  0.20954678  0.13246874]
iter 266, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1976572   0.13784538  0.59363319  0.07086422], probs: [ 0.6608709
1  0.2083445   0.13078459]
iter 267, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19556391  0.13577046  0.59956566  0.06909997], probs: [ 0.6637229
4  0.20715285  0.12912421]
iter 268, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.19774044  0.14277261  0.58292236  0.07656459], probs: [ 0.6665405
6  0.20597196  0.12748747]
iter 269, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1956916   0.14065046  0.58899187  0.07466607], probs: [ 0.6578837
5  0.20908529  0.13303096]
iter 270, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1936415   0.13854655  0.59500107  0.07281088], probs: [ 0.6607908
0.20788214  0.13132706]
iter 271, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.1936415   0.13854655  0.59500107  0.07281088], probs: [ 0.6636628
2  0.20668978  0.1296474 ]
iter 272, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.19890621  0.14094292  0.58608062  0.07407025], probs: [ 0.6636628
2  0.20668978  0.1296474 ]
iter 273, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20419591  0.14331038  0.57717928  0.07531443], probs: [ 0.6598483
7  0.20857976  0.13157187]
iter 274, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20209525  0.14118897  0.58326641  0.07344937], probs: [ 0.6560472
8  0.21046764  0.13348508]
iter 275, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20209525  0.14118897  0.58326641  0.07344937], probs: [ 0.6589520
5  0.20925852  0.13178943]
```

```
iter 276, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20209525  0.14118897  0.58326641  0.07344937], probs: [ 0.6589520
5  0.20925852  0.13178943]
iter 277, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20209525  0.14118897  0.58326641  0.07344937], probs: [ 0.6589520
5  0.20925852  0.13178943]
iter 278, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20209525  0.14118897  0.58326641  0.07344937], probs: [ 0.6589520
5  0.20925852  0.13178943]
iter 279, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.20402453  0.14804845  0.56691298  0.08101404], probs: [ 0.6589520
5  0.20925852  0.13178943]
iter 280, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20197206  0.14588463  0.57312744  0.07901587], probs: [ 0.6503876
3  0.21230632  0.13730604]
iter 281, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20197206  0.14588463  0.57312744  0.07901587], probs: [ 0.6533775
6  0.21107689  0.13554555]
iter 282, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19991581  0.1437379   0.57928349  0.0770628 ], probs: [ 0.6533775
6  0.21107689  0.13554555]
iter 283, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.20168116  0.1505281   0.56296482  0.08482592], probs: [ 0.6563327
8  0.20985776  0.13380946]
iter 284, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.199674    0.14834139  0.56924692  0.08273769], probs: [ 0.6477350
1  0.21289045  0.13937454]
iter 285, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20479636  0.15071593  0.5604256   0.0840621 ], probs: [ 0.6507752
6  0.21165128  0.13757346]
iter 286, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20276459  0.14853038  0.56671118  0.08199385], probs: [ 0.6469821
8  0.21351573  0.13950209]
iter 287, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20276459  0.14853038  0.56671118  0.08199385], probs: [ 0.6500184
0.21227461  0.13770699]
iter 288, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20072781  0.14636132  0.57293883  0.07997204], probs: [ 0.6500184
0.21227461  0.13770699]
iter 289, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20591404  0.14872674  0.56409472  0.0812645 ], probs: [ 0.6530197
9  0.21104364  0.13593656]
iter 290, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20385233  0.14655881  0.57032701  0.07926184], probs: [ 0.6492273
9  0.21291564  0.13785697]
iter 291, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20907978  0.14890355  0.56148674  0.08052992], probs: [ 0.6522254
0.2116825   0.13609211]
iter 292, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20907978  0.14890355  0.56148674  0.08052992], probs: [ 0.6484424
4  0.21355603  0.13800153]
iter 293, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.20907978  0.14890355  0.56148674  0.08052992], probs: [ 0.6484424
4  0.21355603  0.13800153]
iter 294, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20699316  0.14673704  0.56772328  0.07854652], probs: [ 0.6484424
4  0.21355603  0.13800153]
```

```
iter 295, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20490211  0.14458731  0.57390279  0.07660779], probs: [ 0.6514368
8  0.21232077  0.13624235]
iter 296, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20490211  0.14458731  0.57390279  0.07660779], probs: [ 0.6543972
6  0.21109555  0.1345072 ]
iter 297, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20280772  0.14245486  0.58002451  0.07471291], probs: [ 0.6543972
6  0.21109555  0.1345072 ]
iter 298, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20811955  0.14479954  0.57113829  0.07594262], probs: [ 0.6573234
7  0.20988054  0.132796  ]
iter 299, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21345097  0.14711291  0.56228022  0.0771559 ], probs: [ 0.6535335
8  0.2117669   0.13469952]
iter 300, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21130938  0.14496603  0.56847075  0.07525384], probs: [ 0.6497609
0.21364925  0.13658986]
iter 301, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21668099  0.14725813  0.55961718  0.0764437 ], probs: [ 0.6527155
4  0.21241931  0.13486516]
iter 302, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21668099  0.14725813  0.55961718  0.0764437 ], probs: [ 0.6489523
6  0.21430301  0.13674463]
iter 303, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21451422  0.14511318  0.56581227  0.07456033], probs: [ 0.6489523
6  0.21430301  0.13674463]
iter 304, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21451422  0.14511318  0.56581227  0.07456033], probs: [ 0.6519036
5  0.21307089  0.13502546]
iter 305, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21992548  0.14738382  0.5569637   0.075727  ], probs: [ 0.6519036
5  0.21307089  0.13502546]
iter 306, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21773356  0.14524108  0.56316297  0.0738624 ], probs: [ 0.6481501
0.21495584  0.13689405]
iter 307, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21553731  0.14311511  0.56930775  0.07203982], probs: [ 0.6510978
6  0.21372161  0.13518053]
iter 308, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21553731  0.14311511  0.56930775  0.07203982], probs: [ 0.6540131
8  0.21249695  0.13348987]
iter 309, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21333783  0.14100638  0.57539728  0.07025851], probs: [ 0.6540131
8  0.21249695  0.13348987]
iter 310, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21883392  0.14327635  0.56650019  0.07138955], probs: [ 0.6568959
4  0.21128207  0.13182199]
iter 311, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.22434684  0.14551421  0.55763435  0.0725046 ], probs: [ 0.6531338
4  0.21318033  0.13368582]
iter 312, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.22209964  0.14339267  0.5637899   0.07071778], probs: [ 0.6493900
6  0.21507388  0.13553606]
iter 313, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21984869  0.14128811  0.56989186  0.06897135], probs: [ 0.6522996
6  0.21384453  0.13385581]
```

```
iter 314, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21984869  0.14128811  0.56989186  0.06897135], probs: [ 0.6551775
7  0.21262463  0.1321978 ]
iter 315, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21759508  0.13920096  0.57593942  0.06726454], probs: [ 0.6551775
7  0.21262463  0.1321978 ]
iter 316, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21533987  0.13713162  0.58193188  0.06559664], probs: [ 0.6580236
6  0.21141437  0.13056197]
iter 317, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21308406  0.13508047  0.58786857  0.0639669 ], probs: [ 0.6608378
1  0.21021395  0.12894824]
iter 318, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.21308406  0.13508047  0.58786857  0.0639669 ], probs: [ 0.6636199
6  0.20902353  0.12735651]
iter 319, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21082865  0.13304787  0.59374889  0.0623746 ], probs: [ 0.6636199
6  0.20902353  0.12735651]
iter 320, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20857457  0.13103414  0.59957227  0.06081902], probs: [ 0.6663700
2  0.20784328  0.12578669]
iter 321, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21424572  0.13330073  0.5905825   0.06187105], probs: [ 0.6690879
7  0.20667335  0.12423868]
iter 322, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21196395  0.13128772  0.59641917  0.06032916], probs: [ 0.6653125
7  0.20859775  0.12608968]
iter 323, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2096842   0.12929373  0.60219915  0.05882292], probs: [ 0.6680317
9  0.20742394  0.12454427]
iter 324, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20740736  0.12731905  0.60792196  0.05735164], probs: [ 0.6707192
4  0.20626043  0.12302032]
iter 325, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20513428  0.12536394  0.61358716  0.05591462], probs: [ 0.6733749
1  0.20510738  0.12151771]
iter 326, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20513428  0.12536394  0.61358716  0.05591462], probs: [ 0.6759988
0.2039649  0.1200363]
iter 327, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20286581  0.12342863  0.61919438  0.05451119], probs: [ 0.6759988
0.2039649  0.1200363]
iter 328, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20060274  0.12151332  0.62474327  0.05314067], probs: [ 0.6785909
2  0.2028331   0.11857598]
iter 329, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19834583  0.11961822  0.63023355  0.0518024 ], probs: [ 0.6811513
1  0.20171209  0.1171366 ]
iter 330, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20413278  0.12188692  0.62119541  0.05278489], probs: [ 0.6836800
1  0.20060197  0.11571802]
iter 331, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.2099562   0.12413225  0.61215429  0.05375726], probs: [ 0.6799047
4  0.20254133  0.11755393]
iter 332, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20763346  0.1222155   0.61774314  0.05240789], probs: [ 0.6761329
1  0.2044832   0.11938389]
```

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iter 333, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20763346  0.1222155   0.61774314  0.05240789], probs: [ 0.6787026
4  0.20335177  0.11794559]
iter 334, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.21350123  0.12443942  0.60869781  0.05336154], probs: [ 0.6787026
4  0.20335177  0.11794559]
iter 335, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21350123  0.12443942  0.60869781  0.05336154], probs: [ 0.6749358
7  0.20529679  0.11976734]
iter 336, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.21350123  0.12443942  0.60869781  0.05336154], probs: [ 0.6749358
7  0.20529679  0.11976734]
iter 337, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.21114896  0.12252258  0.61430529  0.05202317], probs: [ 0.6749358
7  0.20529679  0.11976734]
iter 338, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.21114896  0.12252258  0.61430529  0.05202317], probs: [ 0.6775096
1  0.20416042  0.11832997]
iter 339, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20880218  0.12062552  0.61985613  0.05071616], probs: [ 0.6775096
1  0.20416042  0.11832997]
iter 340, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20880218  0.12062552  0.61985613  0.05071616], probs: [ 0.6800526
6  0.20303455  0.11691279]
iter 341, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.20880218  0.12062552  0.61985613  0.05071616], probs: [ 0.6800526
6  0.20303455  0.11691279]
iter 342, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.2064617   0.11874841  0.62535     0.0494399 ], probs: [ 0.6800526
6  0.20303455  0.11691279]
iter 343, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20412826  0.11689142  0.63078659  0.04819374], probs: [ 0.6825650
5  0.20191927  0.11551569]
iter 344, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20180259  0.11505469  0.63616565  0.04697707], probs: [ 0.6850468
2  0.20081467  0.11413851]
iter 345, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19948538  0.11323836  0.64148698  0.04578928], probs: [ 0.6874980
2  0.19972086  0.11278113]
iter 346, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.20543895  0.11544964  0.63242798  0.04668343], probs: [ 0.6899187
2  0.19863789  0.11144339]
iter 347, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20543895  0.11544964  0.63242798  0.04668343], probs: [ 0.6861634
6  0.20059     0.11324654]
iter 348, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20309002  0.11363172  0.63777419  0.04550407], probs: [ 0.6861634
6  0.20059     0.11324654]
iter 349, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.20075004  0.11183417  0.64306305  0.04435274], probs: [ 0.6885912
8  0.19950084  0.11190788]
iter 350, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.20075004  0.11183417  0.64306305  0.04435274], probs: [ 0.6909889
6  0.19842249  0.11058855]
iter 351, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19841965  0.11005709  0.64829438  0.04322888], probs: [ 0.6909889
6  0.19842249  0.11058855]
```

```
iter 352, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19609949  0.10830056  0.65346806  0.04213188], probs: [ 0.6933566
0.19735501  0.1092884 ]
iter 353, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19379016  0.10656466  0.65858399  0.04106119], probs: [ 0.6956942
8  0.19629846  0.10800726]
iter 354, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.19149222  0.10484941  0.66364211  0.04001625], probs: [ 0.6980021
2  0.19525288  0.106745  ]
iter 355, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.19149222  0.10484941  0.66364211  0.04001625], probs: [ 0.7002802
3  0.19421833  0.10550144]
iter 356, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18920622  0.10315488  0.66864239  0.03899651], probs: [ 0.7002802
3  0.19421833  0.10550144]
iter 357, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18693268  0.10148107  0.67358483  0.03800141], probs: [ 0.7025287
4  0.19319484  0.10427642]
iter 358, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1846721   0.099828    0.67846947  0.03703043], probs: [ 0.7047478
0.19218243  0.10306977]
iter 359, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18242494  0.09819566  0.68329636  0.03608304], probs: [ 0.7069375
6  0.19118112  0.10188132]
iter 360, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18019165  0.09658404  0.68806559  0.03515873], probs: [ 0.7090981
7  0.19019094  0.1007109 ]
iter 361, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17797264  0.0949931   0.69277728  0.03425698], probs: [ 0.7112298
0.18921188  0.09955832]
iter 362, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17576832  0.09342282  0.69743157  0.03337729], probs: [ 0.7133326
4  0.18824395  0.09842342]
iter 363, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.17576832  0.09342282  0.69743157  0.03337729], probs: [ 0.7154068
6  0.18728714  0.097306  ]
iter 364, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17357907  0.09187313  0.70202862  0.03251918], probs: [ 0.7154068
6  0.18728714  0.097306  ]
iter 365, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.17357907  0.09187313  0.70202862  0.03251918], probs: [ 0.7174526
6  0.18634145  0.09620588]
iter 366, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17140523  0.09034399  0.70656863  0.03168216], probs: [ 0.7174526
6  0.18634145  0.09620588]
iter 367, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.17736047  0.09247988  0.69772847  0.03243118], probs: [ 0.7194702
5  0.18540686  0.09512289]
iter 368, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17514885  0.09094475  0.70230921  0.0315972 ], probs: [ 0.7158397
3  0.18731967  0.0968406 ]
iter 369, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.17514885  0.09094475  0.70230921  0.0315972 ], probs: [ 0.7178720
4  0.18637571  0.09575225]
iter 370, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.17514885  0.09094475  0.70230921  0.0315972 ], probs: [ 0.7178720
4  0.18637571  0.09575225]
```

```
iter 371, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17295294  0.08943003  0.70683331  0.03078372], probs: [ 0.7178720
4  0.18637571  0.09575225]
iter 372, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.17295294  0.08943003  0.70683331  0.03078372], probs: [ 0.7198764
4  0.1854428   0.09468076]
iter 373, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.17895942  0.0915432   0.69798626  0.03151112], probs: [ 0.7198764
4  0.1854428   0.09468076]
iter 374, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.17895942  0.0915432   0.69798626  0.03151112], probs: [ 0.7162508
6  0.18735962  0.09638952]
iter 375, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.18503942  0.09364829  0.68907655  0.03223574], probs: [ 0.7162508
6  0.18735962  0.09638952]
iter 376, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.18503942  0.09364829  0.68907655  0.03223574], probs: [ 0.7126035
4  0.18929168  0.09810478]
iter 377, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.1911882   0.09574323  0.68011171  0.03295686], probs: [ 0.7126035
4  0.18929168  0.09810478]
iter 378, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18884883  0.09417237  0.68486607  0.03211273], probs: [ 0.7089376
1  0.19123739  0.099825  ]
iter 379, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18652458  0.09262173  0.68956446  0.03128922], probs: [ 0.7110395
3  0.19025528  0.09870519]
iter 380, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18421587  0.09109128  0.69420698  0.03048587], probs: [ 0.7131137
7  0.18928406  0.09760217]
iter 381, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18192305  0.08958096  0.69879376  0.02970223], probs: [ 0.7151605
0.18832373  0.09651576]
iter 382, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1796465   0.0880907   0.70332494  0.02893785], probs: [ 0.7171798
9  0.1873743   0.09544581]
iter 383, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.18581467  0.09014308  0.6944302   0.02961206], probs: [ 0.7191721
1  0.18643575  0.09439213]
iter 384, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18349958  0.08864753  0.69900217  0.02885072], probs: [ 0.7155477
4  0.18836989  0.09608237]
iter 385, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.18972917  0.09068412  0.69007317  0.02951354], probs: [ 0.7175546
5  0.18742192  0.09502343]
iter 386, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.18972917  0.09068412  0.69007317  0.02951354], probs: [ 0.7139218
8  0.18936554  0.09671258]
iter 387, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1873757   0.08918369  0.69468517  0.02875544], probs: [ 0.7139218
8  0.18936554  0.09671258]
iter 388, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.19366529  0.09120399  0.68572388  0.02940684], probs: [ 0.7159431
1  0.18840829  0.0956486 ]
iter 389, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.19366529  0.09120399  0.68572388  0.02940684], probs: [ 0.7123027
4  0.19036096  0.0973363 ]
```

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iter 390, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1912736   0.08969907  0.69037514  0.02865219], probs: [ 0.7123027
4  0.19036096  0.0973363 ]
iter 391, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18889833  0.08821392  0.69497171  0.02791604], probs: [ 0.7143379
2  0.18939458  0.0962675 ]
iter 392, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.18889833  0.08821392  0.69497171  0.02791604], probs: [ 0.7163464
8  0.18843894  0.09521459]
iter 393, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18653984  0.08674848  0.69951369  0.02719799], probs: [ 0.7163464
8  0.18843894  0.09521459]
iter 394, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.18653984  0.08674848  0.69951369  0.02719799], probs: [ 0.7183285
8  0.18749402  0.0941774 ]
iter 395, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.18653984  0.08674848  0.69951369  0.02719799], probs: [ 0.7183285
8  0.18749402  0.0941774 ]
iter 396, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.18419849  0.08530265  0.70400123  0.02649762], probs: [ 0.7183285
8  0.18749402  0.0941774 ]
iter 397, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1818746   0.08387638  0.70843448  0.02581454], probs: [ 0.7202843
9  0.18655983  0.09315578]
iter 398, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.1818746   0.08387638  0.70843448  0.02581454], probs: [ 0.7222140
8  0.18563635  0.09214957]
iter 399, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17956846  0.08246956  0.71281363  0.02514835], probs: [ 0.7222140
8  0.18563635  0.09214957]
iter 400, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17728037  0.0810821   0.71713886  0.02449866], probs: [ 0.7241178
1  0.18472358  0.09115861]
iter 401, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17501059  0.0797139   0.7214104   0.02386511], probs: [ 0.7259957
7  0.18382148  0.09018275]
iter 402, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.17501059  0.0797139   0.7214104   0.02386511], probs: [ 0.7278481
5  0.18293003  0.08922181]
iter 403, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.17501059  0.0797139   0.7214104   0.02386511], probs: [ 0.7278481
5  0.18293003  0.08922181]
iter 404, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.17501059  0.0797139   0.7214104   0.02386511], probs: [ 0.7278481
5  0.18293003  0.08922181]
iter 405, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17275936  0.07836484  0.72562849  0.02324731], probs: [ 0.7278481
5  0.18293003  0.08922181]
iter 406, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17052691  0.07703481  0.72979336  0.02264491], probs: [ 0.7296751
4  0.18204921  0.08827564]
iter 407, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.17052691  0.07703481  0.72979336  0.02264491], probs: [ 0.7314769
4  0.18117898  0.08734408]
iter 408, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16831346  0.07572369  0.73390531  0.02205754], probs: [ 0.7314769
4  0.18117898  0.08734408]
```

```
iter 409, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16611918  0.07443135  0.7379646   0.02148487], probs: [ 0.7332537
5  0.1803193   0.08642694]
iter 410, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16394427  0.07315765  0.74197154  0.02092654], probs: [ 0.7350057
8  0.17947014  0.08552408]
iter 411, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.17009957  0.07505925  0.73337068  0.02147049], probs: [ 0.7367332
4  0.17863145  0.08463532]
iter 412, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16788199  0.07377824  0.73742672  0.02091305], probs: [ 0.7332635
2  0.18051199  0.08622449]
iter 413, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16568401  0.07251572  0.74143069  0.02036959], probs: [ 0.7350094
5  0.17966215  0.0853284 ]
iter 414, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.16568401  0.07251572  0.74143069  0.02036959], probs: [ 0.7367310
2  0.17882275  0.08444623]
iter 415, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16350578  0.07127155  0.74538291  0.01983976], probs: [ 0.7367310
2  0.17882275  0.08444623]
iter 416, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.1696896   0.07314059  0.73680977  0.02036004], probs: [ 0.7384284
5  0.17799372  0.08357782]
iter 417, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.1696896   0.07314059  0.73680977  0.02036004], probs: [ 0.7349777
8  0.17987081  0.08515141]
iter 418, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16746815  0.07188905  0.74081185  0.01983095], probs: [ 0.7349777
8  0.17987081  0.08515141]
iter 419, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16526669  0.07065572  0.74476245  0.01931515], probs: [ 0.7366940
1  0.17903048  0.08427551]
iter 420, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16308536  0.06944044  0.74866189  0.01881231], probs: [ 0.7383863
1  0.17820049  0.0834132 ]
iter 421, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16092431  0.06824308  0.75251048  0.01832213], probs: [ 0.7400548
8  0.1773808   0.08256431]
iter 422, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.15878364  0.06706348  0.75630857  0.01784431], probs: [ 0.7416999
4  0.17657136  0.0817287 ]
iter 423, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.15666345  0.06590149  0.76005649  0.01737856], probs: [ 0.7433216
9  0.17577211  0.08090621]
iter 424, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.15666345  0.06590149  0.76005649  0.01737856], probs: [ 0.7449203
5  0.17498299  0.08009666]
iter 425, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.16279665  0.0677032   0.75164648  0.01785368], probs: [ 0.7449203
5  0.17498299  0.08009666]
iter 426, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.16903639  0.06950753  0.74312659  0.0183295 ], probs: [ 0.7415471
1  0.17682799  0.0816249 ]
iter 427, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.16903639  0.06950753  0.74312659  0.0183295 ], probs: [ 0.7381329
4  0.17869851  0.08316855]
```

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iter 428, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1668067   0.06831248  0.74702843  0.01785238], probs: [ 0.7381329
4  0.17869851  0.08316855]
iter 429, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16459774  0.06713504  0.75087993  0.01738729], probs: [ 0.7397940
4  0.17787578  0.08233018]
iter 430, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16240962  0.06597508  0.75468139  0.01693392], probs: [ 0.7414320
1  0.17706322  0.08150477]
iter 431, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16024244  0.06483243  0.75843314  0.016492  ], probs: [ 0.7430470
3  0.1762608   0.08069217]
iter 432, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.16024244  0.06483243  0.75843314  0.016492  ], probs: [ 0.7446393
2  0.17546846  0.07989222]
iter 433, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.16648078  0.06659302  0.74998634  0.01693986], probs: [ 0.7446393
2  0.17546846  0.07989222]
iter 434, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.16648078  0.06659302  0.74998634  0.01693986], probs: [ 0.7412629
6  0.17732575  0.08141129]
iter 435, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16426852  0.06544271  0.75379057  0.01649819], probs: [ 0.7412629
6  0.17732575  0.08141129]
iter 436, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.16426852  0.06544271  0.75379057  0.01649819], probs: [ 0.7428751
6  0.17652153  0.0806033 ]
iter 437, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.17058674  0.06719418  0.74527934  0.01693974], probs: [ 0.7428751
6  0.17652153  0.0806033 ]
iter 438, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.17058674  0.06719418  0.74527934  0.01693974], probs: [ 0.7394774
1  0.17839474  0.08212785]
iter 439, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16832946  0.06603658  0.74913546  0.0164985 ], probs: [ 0.7394774
1  0.17839474  0.08212785]
iter 440, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16609346  0.06489616  0.752942    0.01606838], probs: [ 0.7411092
5  0.17757874  0.08131201]
iter 441, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.16609346  0.06489616  0.752942    0.01606838], probs: [ 0.7427185
0.17677282  0.08050868]
iter 442, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16387886  0.06377275  0.75669926  0.01564912], probs: [ 0.7427185
0.17677282  0.08050868]
iter 443, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.17022154  0.06549241  0.74821495  0.01607111], probs: [ 0.7443053
5  0.17597692  0.07971773]
iter 444, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16796141  0.0643617   0.75202472  0.01565217], probs: [ 0.7409252
0.17784661  0.08122819]
iter 445, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.17438334  0.06607189  0.74347669  0.01606808], probs: [ 0.7425319
4  0.1770388   0.08042926]
iter 446, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.17438334  0.06607189  0.74347669  0.01606808], probs: [ 0.7391306
4  0.17892423  0.08194513]
```

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iter 447, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.17207775  0.06493424  0.74733838  0.01564962], probs: [ 0.7391306
4  0.17892423  0.08194513]
iter 448, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.17207775  0.06493424  0.74733838  0.01564962], probs: [ 0.7407569
7  0.17810462  0.0811384 ]
iter 449, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1697939   0.06381346  0.75115093  0.01524171], probs: [ 0.7407569
7  0.17810462  0.0811384 ]
iter 450, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.1697939   0.06381346  0.75115093  0.01524171], probs: [ 0.7423610
5  0.17729504  0.08034391]
iter 451, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16753189  0.0627094   0.75491462  0.0148441 ], probs: [ 0.7423610
5  0.17729504  0.08034391]
iter 452, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16529179  0.0616219   0.75862976  0.01445655], probs: [ 0.7439430
6  0.17649542  0.07956152]
iter 453, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16307368  0.06055082  0.76229669  0.01407881], probs: [ 0.7455031
8  0.17570573  0.07879108]
iter 454, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.16307368  0.06055082  0.76229669  0.01407881], probs: [ 0.7470416
3  0.17492591  0.07803247]
iter 455, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.16087764  0.059496    0.76591571  0.01371065], probs: [ 0.7470416
3  0.17492591  0.07803247]
iter 456, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1587037   0.05845728  0.76948719  0.01335183], probs: [ 0.7485585
8  0.1741559   0.07728553]
iter 457, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1565519   0.0574345   0.77301145  0.01300215], probs: [ 0.7500542
4  0.17339564  0.07655012]
iter 458, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.15442227  0.0564275   0.77648887  0.01266136], probs: [ 0.7515288
0.17264507  0.07582612]
iter 459, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.15231483  0.05543611  0.77991979  0.01232927], probs: [ 0.7529824
8  0.17190414  0.07511338]
iter 460, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.15022957  0.05446017  0.78330461  0.01200565], probs: [ 0.7544154
7  0.17117277  0.07441176]
iter 461, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.15022957  0.05446017  0.78330461  0.01200565], probs: [ 0.7558279
8  0.1704509   0.07372111]
iter 462, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.15022957  0.05446017  0.78330461  0.01200565], probs: [ 0.7558279
8  0.1704509   0.07372111]
iter 463, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1481665   0.05349951  0.78664369  0.01169031], probs: [ 0.7558279
8  0.1704509   0.07372111]
iter 464, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.14612559  0.05255396  0.78993741  0.01138303], probs: [ 0.7572202
2  0.16973846  0.07304132]
iter 465, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.14410683  0.05162336  0.79318618  0.01108363], probs: [ 0.7585924
0.16903538  0.07237222]
```

```
iter 466, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.14211018  0.05070753  0.79639038  0.01079191], probs: [ 0.7599447
1  0.16834159  0.0717137 ]
iter 467, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1401356   0.0498063   0.79955042  0.01050768], probs: [ 0.7612773
9  0.16765701  0.0710656 ]
iter 468, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.14615084  0.05132576  0.79169515  0.01082825], probs: [ 0.7625906
2  0.16698158  0.0704278 ]
iter 469, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.14615084  0.05132576  0.79169515  0.01082825], probs: [ 0.7594852
9  0.16872035  0.07179436]
iter 470, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.14412787  0.05041579  0.79491303  0.01054331], probs: [ 0.7594852
9  0.16872035  0.07179436]
iter 471, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.14412787  0.05041579  0.79491303  0.01054331], probs: [ 0.7608207
6  0.16803189  0.07114735]
iter 472, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.14212721  0.04952031  0.79808679  0.0102657 ], probs: [ 0.7608207
6  0.16803189  0.07114735]
iter 473, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1401488   0.04863915  0.80121683  0.00999522], probs: [ 0.7621368
7  0.16735258  0.07051055]
iter 474, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13819259  0.04777215  0.80430357  0.00973169], probs: [ 0.7634338
2  0.16668234  0.06988384]
iter 475, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13625851  0.04691912  0.8073474   0.00947496], probs: [ 0.7647118
3  0.16602109  0.06926707]
iter 476, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1343465   0.04607991  0.81034874  0.00922485], probs: [ 0.7659711
1  0.16536876  0.06866013]
iter 477, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13245647  0.04525434  0.813308    0.0089812 ], probs: [ 0.7672118
6  0.16472527  0.06806287]
iter 478, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13058833  0.04444224  0.81622559  0.00874384], probs: [ 0.7684342
9  0.16409054  0.06747517]
iter 479, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.13058833  0.04444224  0.81622559  0.00874384], probs: [ 0.7696386
1  0.1634645   0.06689689]
iter 480, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.13058833  0.04444224  0.81622559  0.00874384], probs: [ 0.7696386
1  0.1634645   0.06689689]
iter 481, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.128742    0.04364344  0.81910194  0.00851262], probs: [ 0.7696386
1  0.1634645   0.06689689]
iter 482, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12691737  0.04285777  0.82193748  0.00828739], probs: [ 0.7708250
4  0.16284705  0.06632791]
iter 483, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.13267298  0.04425243  0.81451752  0.00855707], probs: [ 0.7719937
7  0.16223813  0.0657681 ]
iter 484, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.13267298  0.04425243  0.81451752  0.00855707], probs: [ 0.7690724
5  0.16388452  0.06704303]
```

```
iter 485, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13079935  0.04345764  0.81741215  0.00833086], probs: [ 0.7690724
5  0.16388452  0.06704303]
iter 486, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12894768  0.0426759   0.82026593  0.00811049], probs: [ 0.770264
0.16326231  0.06647369]
iter 487, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12711788  0.04190703  0.82307925  0.00789584], probs: [ 0.7714378
7  0.16264864  0.06591348]
iter 488, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12530983  0.04115086  0.82585256  0.00768675], probs: [ 0.7725942
9  0.16204343  0.06536227]
iter 489, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.13104504  0.04250445  0.81851092  0.0079396 ], probs: [ 0.7737334
6  0.1614466   0.06481993]
iter 490, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.13693008  0.0438719   0.81100299  0.00819503], probs: [ 0.7708487
7  0.1630778   0.06607343]
iter 491, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.135001    0.04308518  0.81393532  0.0079785 ], probs: [ 0.7679009
1  0.16474702  0.06735207]
iter 492, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.135001    0.04308518  0.81393532  0.0079785 ], probs: [ 0.7691031
8  0.16411503  0.06678179]
iter 493, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.135001    0.04308518  0.81393532  0.0079785 ], probs: [ 0.7691031
8  0.16411503  0.06678179]
iter 494, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.135001    0.04308518  0.81393532  0.0079785 ], probs: [ 0.7691031
8  0.16411503  0.06678179]
iter 495, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13309439  0.04231133  0.8168267   0.00776758], probs: [ 0.7691031
8  0.16411503  0.06678179]
iter 496, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.1390428   0.04366492  0.80927621  0.00801607], probs: [ 0.7702878
3  0.16349162  0.06622055]
iter 497, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13708628  0.04288251  0.81222688  0.00780434], probs: [ 0.7673272
0.16517193  0.06750087]
iter 498, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13515249  0.04211288  0.81513656  0.00759807], probs: [ 0.7685346
4  0.16453515  0.06693021]
iter 499, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.13324133  0.04135587  0.81800565  0.00739715], probs: [ 0.7697244
8  0.16390699  0.06636853]
iter 500, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1313527   0.04061132  0.82083456  0.00720143], probs: [ 0.7708969
4  0.16328735  0.06581571]
iter 501, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12948648  0.03987907  0.82362368  0.00701078], probs: [ 0.7720522
0.16267616  0.06527165]
iter 502, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12764255  0.03915895  0.82637342  0.00682508], probs: [ 0.7731904
5  0.16207334  0.06473621]
iter 503, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1258208   0.0384508   0.8290842   0.0066442], probs: [ 0.77431191  0
.16147882  0.06420928]
```

```
iter 504, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1240211   0.03775445  0.83175642  0.00646803], probs: [ 0.7754167
5  0.1608925   0.06369075]
iter 505, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.1240211   0.03775445  0.83175642  0.00646803], probs: [ 0.7765051
9  0.16031432  0.0631805 ]
iter 506, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1222433   0.03706976  0.8343905   0.00629644], probs: [ 0.7765051
9  0.16031432  0.0631805 ]
iter 507, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.1222433   0.03706976  0.8343905   0.00629644], probs: [ 0.7775774
1  0.15974418  0.06267841]
iter 508, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.12795013  0.03831759  0.8272239   0.00650838], probs: [ 0.7775774
1  0.15974418  0.06267841]
iter 509, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.12795013  0.03831759  0.8272239   0.00650838], probs: [ 0.7747765
4  0.16134234  0.06388112]
iter 510, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12612231  0.03762423  0.8299176   0.00633586], probs: [ 0.7747765
4  0.16134234  0.06388112]
iter 511, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12431667  0.03694247  0.83257304  0.00616783], probs: [ 0.7758717
0.16075877  0.06336953]
iter 512, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.12431667  0.03694247  0.83257304  0.00616783], probs: [ 0.7769506
4  0.16018329  0.06286607]
iter 513, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12253308  0.03627212  0.83519064  0.00600417], probs: [ 0.7769506
4  0.16018329  0.06286607]
iter 514, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12077139  0.03561304  0.8377708   0.00584477], probs: [ 0.7780135
5  0.1596158   0.06237065]
iter 515, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.12077139  0.03561304  0.8377708   0.00584477], probs: [ 0.7790606
2  0.15905625  0.06188314]
iter 516, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11903147  0.03496507  0.84031393  0.00568953], probs: [ 0.7790606
2  0.15905625  0.06188314]
iter 517, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.11903147  0.03496507  0.84031393  0.00568953], probs: [ 0.7800920
3  0.15850453  0.06140344]
iter 518, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.11903147  0.03496507  0.84031393  0.00568953], probs: [ 0.7800920
3  0.15850453  0.06140344]
iter 519, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.12466935  0.036162    0.83328435  0.00588429], probs: [ 0.7800920
3  0.15850453  0.06140344]
iter 520, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1228793   0.03550548  0.83588709  0.00572813], probs: [ 0.7773503
4  0.16007429  0.06257537]
iter 521, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.1228793   0.03550548  0.83588709  0.00572813], probs: [ 0.7784046
8  0.15950914  0.06208618]
iter 522, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12111129  0.03486001  0.83845267  0.00557603], probs: [ 0.7784046
8  0.15950914  0.06208618]
```

```
iter 523, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11936518  0.03422543  0.84098148  0.00542791], probs: [ 0.7794433
6  0.15895186  0.06160477]
iter 524, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11764081  0.0336016   0.84347395  0.00528364], probs: [ 0.7804665
6  0.15840239  0.06113106]
iter 525, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11593803  0.03298835  0.84593046  0.00514315], probs: [ 0.7814744
6  0.15786063  0.06066491]
iter 526, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.11593803  0.03298835  0.84593046  0.00514315], probs: [ 0.7824672
6  0.1573265   0.06020624]
iter 527, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.11593803  0.03298835  0.84593046  0.00514315], probs: [ 0.7824672
6  0.1573265   0.06020624]
iter 528, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.11593803  0.03298835  0.84593046  0.00514315], probs: [ 0.7824672
6  0.1573265   0.06020624]
iter 529, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.11593803  0.03298835  0.84593046  0.00514315], probs: [ 0.7824672
6  0.1573265   0.06020624]
iter 530, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11425668  0.03238555  0.84835144  0.00500633], probs: [ 0.7824672
6  0.1573265   0.06020624]
iter 531, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.12209406  0.03762736  0.83377541  0.00650317], probs: [ 0.7834451
3  0.15679994  0.05975493]
iter 532, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1203413   0.03694432  0.83638379  0.00633059], probs: [ 0.7772513
1  0.15984684  0.06290185]
iter 533, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.1259897   0.03819574  0.82926954  0.00654502], probs: [ 0.7783141
8  0.15928268  0.06240314]
iter 534, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12418717  0.03750391  0.83193745  0.00637147], probs: [ 0.7755316
9  0.16086826  0.06360005]
iter 535, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.12418717  0.03750391  0.83193745  0.00637147], probs: [ 0.7766174
8  0.1602907   0.06309182]
iter 536, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1224066   0.03682367  0.8345673   0.00620243], probs: [ 0.7766174
8  0.1602907   0.06309182]
iter 537, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.12064786  0.03615485  0.8371595   0.0060378 ], probs: [ 0.7776871
1  0.15972118  0.06259171]
iter 538, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.12064786  0.03615485  0.8371595   0.0060378 ], probs: [ 0.7787407
8  0.15915961  0.06209961]
iter 539, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.1189108   0.03549728  0.83971446  0.00587745], probs: [ 0.7787407
8  0.15915961  0.06209961]
iter 540, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11719528  0.03485083  0.84223259  0.00572129], probs: [ 0.7797786
7  0.15860591  0.06161541]
iter 541, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11550115  0.03421532  0.84471431  0.00556921], probs: [ 0.7808009
9  0.15806001  0.061139  ]
```

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iter 542, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11382826  0.03359061  0.84716003  0.0054211 ], probs: [ 0.7818079
1  0.15752182  0.06067027]
iter 543, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.11382826  0.03359061  0.84716003  0.0054211 ], probs: [ 0.7827996
4  0.15699125  0.06020911]
iter 544, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.11382826  0.03359061  0.84716003  0.0054211 ], probs: [ 0.7827996
4  0.15699125  0.06020911]
iter 545, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11217644  0.03297654  0.84957015  0.00527687], probs: [ 0.7827996
4  0.15699125  0.06020911]
iter 546, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.11054554  0.03237296  0.85194509  0.00513641], probs: [ 0.7837763
6  0.15646823  0.05975541]
iter 547, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10893541  0.03177971  0.85428526  0.00499962], probs: [ 0.7847382
6  0.15595268  0.05930906]
iter 548, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.10893541  0.03177971  0.85428526  0.00499962], probs: [ 0.7856855
4  0.1554445   0.05886997]
iter 549, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10734586  0.03119665  0.85659106  0.00486643], probs: [ 0.7856855
4  0.1554445   0.05886997]
iter 550, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10577675  0.03062362  0.85886291  0.00473673], probs: [ 0.7866183
7  0.15494362  0.05843801]
iter 551, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.11103086  0.03173118  0.85232992  0.00490804], probs: [ 0.7875369
5  0.15444995  0.0580131 ]
iter 552, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.11103086  0.03173118  0.85232992  0.00490804], probs: [ 0.7849918
5  0.15590961  0.05909854]
iter 553, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10941288  0.03114951  0.85466028  0.00477732], probs: [ 0.7849918
5  0.15590961  0.05909854]
iter 554, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10781563  0.03057784  0.8569565   0.00465004], probs: [ 0.7859329
9  0.15540278  0.05866424]
iter 555, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10623894  0.03001601  0.85921897  0.00452609], probs: [ 0.7868598
2  0.15490321  0.05823697]
iter 556, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10468263  0.02946388  0.8614481   0.00440539], probs: [ 0.7877725
3  0.15441082  0.05781665]
iter 557, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10314653  0.02892131  0.86364429  0.00428787], probs: [ 0.7886713
0.15392554  0.05740316]
iter 558, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10163048  0.02838815  0.86580794  0.00417344], probs: [ 0.7895563
2  0.15344727  0.05699641]
iter 559, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10013428  0.02786427  0.86793944  0.00406201], probs: [ 0.7904277
5  0.15297595  0.05659629]
iter 560, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09865776  0.02734951  0.8700392   0.00395352], probs: [ 0.7912858
0.15251148  0.05620272]
```

```
iter 561, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09720075  0.02684375  0.87210761  0.00384789], probs: [ 0.7921306
2  0.1520538   0.05581558]
iter 562, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.09720075  0.02684375  0.87210761  0.00384789], probs: [ 0.7929624
0.1516028  0.0554348]
iter 563, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.09720075  0.02684375  0.87210761  0.00384789], probs: [ 0.7929624
0.1516028  0.0554348]
iter 564, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.10219391  0.02785282  0.86596073  0.00399254], probs: [ 0.7929624
0.1516028  0.0554348]
iter 565, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10068901  0.02733872  0.86808633  0.00388593], probs: [ 0.7905747
1  0.15297887  0.05644641]
iter 566, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09920393  0.02683359  0.87018033  0.00378214], probs: [ 0.7914285
2  0.152515    0.05605648]
iter 567, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.09920393  0.02683359  0.87018033  0.00378214], probs: [ 0.7922692
2  0.15205789  0.0556729 ]
iter 568, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.1042726   0.02783607  0.86396789  0.00392344], probs: [ 0.7922692
2  0.15205789  0.0556729 ]
iter 569, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10273914  0.02732273  0.86611941  0.00381872], probs: [ 0.7898587
5  0.15344983  0.05669142]
iter 570, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.10122581  0.02681833  0.86823912  0.00371675], probs: [ 0.7907215
7  0.15297975  0.05629868]
iter 571, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09973242  0.02632272  0.87032739  0.00361747], probs: [ 0.7915712
1  0.15251649  0.0559123 ]
iter 572, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.09973242  0.02632272  0.87032739  0.00361747], probs: [ 0.7924078
4  0.15205995  0.05553221]
iter 573, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.09973242  0.02632272  0.87032739  0.00361747], probs: [ 0.7924078
4  0.15205995  0.05553221]
iter 574, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09825879  0.02583579  0.87238462  0.00352081], probs: [ 0.7924078
4  0.15205995  0.05553221]
iter 575, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.09825879  0.02583579  0.87238462  0.00352081], probs: [ 0.7932316
3  0.15161008  0.0551583 ]
iter 576, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09680474  0.02535738  0.87441119  0.00342669], probs: [ 0.7932316
3  0.15161008  0.0551583 ]
iter 577, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09537008  0.02488738  0.87640749  0.00333506], probs: [ 0.7940427
5  0.15116678  0.05479048]
iter 578, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.09537008  0.02488738  0.87640749  0.00333506], probs: [ 0.7948413
7  0.15072997  0.05442866]
iter 579, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09395462  0.02442564  0.8783739   0.00324584], probs: [ 0.7948413
7  0.15072997  0.05442866]
```

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iter 580, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09255817  0.02397204  0.8803108   0.00315898], probs: [ 0.7956276
6  0.15029958  0.05407276]
iter 581, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09118055  0.02352645  0.88221857  0.00307442], probs: [ 0.7964017
9  0.14987553  0.05372268]
iter 582, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08982157  0.02308875  0.88409758  0.0029921 ], probs: [ 0.7971639
2  0.14945774  0.05337834]
iter 583, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.08982157  0.02308875  0.88409758  0.0029921 ], probs: [ 0.7979142
2  0.14904613  0.05303965]
iter 584, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08848103  0.02265881  0.88594821  0.00291195], probs: [ 0.7979142
2  0.14904613  0.05303965]
iter 585, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.09588381  0.026998    0.87318078  0.00393741], probs: [ 0.7986528
4  0.14864063  0.05270653]
iter 586, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.09588381  0.026998    0.87318078  0.00393741], probs: [ 0.7933225
4  0.15133852  0.05533894]
iter 587, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.10082479  0.02801652  0.86707274  0.00408595], probs: [ 0.7933225
4  0.15133852  0.05533894]
iter 588, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.10082479  0.02801652  0.86707274  0.00408595], probs: [ 0.7909474
0.15270478  0.05634782]
iter 589, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09933902  0.02749917  0.86918497  0.00397684], probs: [ 0.7909474
0.15270478  0.05634782]
iter 590, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.09933902  0.02749917  0.86918497  0.00397684], probs: [ 0.7917972
0.15224435  0.05595845]
iter 591, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09787285  0.02699084  0.87126571  0.0038706 ], probs: [ 0.7917972
0.15224435  0.05595845]
iter 592, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09642609  0.02649141  0.87331534  0.00376716], probs: [ 0.7926339
0.15179064  0.05557546]
iter 593, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09499856  0.02600073  0.87533427  0.00366645], probs: [ 0.7934576
6  0.15134358  0.05519876]
iter 594, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09359008  0.02551866  0.87732287  0.00356839], probs: [ 0.7942686
8  0.15090309  0.05482824]
iter 595, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09220046  0.02504508  0.87928153  0.00347293], probs: [ 0.7950671
1  0.15046908  0.05446381]
iter 596, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09082952  0.02457985  0.88121065  0.00337998], probs: [ 0.7958531
3  0.15004148  0.05410538]
iter 597, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.09082952  0.02457985  0.88121065  0.00337998], probs: [ 0.7966269
2  0.14962021  0.05375287]
iter 598, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.09560646  0.02552903  0.87535401  0.0035105 ], probs: [ 0.7966269
2  0.14962021  0.05375287]
```

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iter 599, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09418875  0.02505566  0.87733897  0.00341662], probs: [ 0.7943548
7  0.15093236  0.05471277]
iter 600, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.09909092  0.02601173  0.87135036  0.00354699], probs: [ 0.7951501
7  0.15049851  0.05435132]
iter 601, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09762564  0.0255303   0.87339187  0.00345219], probs: [ 0.7928289
0.15184118  0.05532992]
iter 602, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09617986  0.02505732  0.87540293  0.00335989], probs: [ 0.7936459
6  0.15139458  0.05495946]
iter 603, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.0947534   0.02459265  0.87738392  0.00327003], probs: [ 0.7944504
4  0.15095452  0.05459504]
iter 604, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09334607  0.02413616  0.87933524  0.00318254], probs: [ 0.7952425
2  0.15052091  0.05423657]
iter 605, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09195768  0.02368773  0.88125724  0.00309736], probs: [ 0.7960223
6  0.15009368  0.05388396]
iter 606, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.09058803  0.02324722  0.88315032  0.00301443], probs: [ 0.7967901
4  0.14967274  0.05353712]
iter 607, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08923695  0.02281452  0.88501483  0.0029337 ], probs: [ 0.7975460
1  0.14925803  0.05319596]
iter 608, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.08923695  0.02281452  0.88501483  0.0029337 ], probs: [ 0.7982901
4  0.14884946  0.05286041]
iter 609, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08790424  0.0223895   0.88685116  0.0028551 ], probs: [ 0.7982901
4  0.14884946  0.05286041]
iter 610, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08658971  0.02197203  0.88865967  0.00277859], probs: [ 0.7990226
8  0.14844695  0.05253037]
iter 611, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08529317  0.021562    0.89044073  0.0027041 ], probs: [ 0.7997438
1  0.14805044  0.05220576]
iter 612, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08401443  0.02115928  0.8921947   0.00263158], probs: [ 0.8004536
7  0.14765983  0.0518865 ]
iter 613, selected_arm: 2, reward_of_selected_arm: 0, weights: [ 0
.08401443  0.02115928  0.8921947   0.00263158], probs: [ 0.8011524
3  0.14727507  0.0515725 ]
iter 614, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.0827533   0.02076377  0.89392194  0.00256099], probs: [ 0.8011524
3  0.14727507  0.0515725 ]
iter 615, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08150959  0.02037533  0.89562281  0.00249228], probs: [ 0.8018402
4  0.14689606  0.05126369]
iter 616, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08028311  0.01999386  0.89729765  0.00242538], probs: [ 0.8025172
6  0.14652275  0.05095999]
iter 617, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07907366  0.01961924  0.89894683  0.00236027], probs: [ 0.8031836
4  0.14615504  0.05066132]
```

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iter 618, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07788107  0.01925136  0.90057069  0.00229688], probs: [ 0.8038395
3  0.14579288  0.05036759]
iter 619, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07788107  0.01925136  0.90057069  0.00229688], probs: [ 0.8044850
7  0.14543619  0.05007874]
iter 620, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.08218704  0.02003828  0.89538391  0.00239077], probs: [ 0.8044850
7  0.14543619  0.05007874]
iter 621, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08095044  0.01966314  0.89705982  0.0023266 ], probs: [ 0.8024829
0.14660233  0.05091477]
iter 622, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07973102  0.01929473  0.89871011  0.00226414], probs: [ 0.8031484
5  0.14623389  0.05061766]
iter 623, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07852859  0.01893295  0.90033512  0.00220334], probs: [ 0.8038035
5  0.14587099  0.05032546]
iter 624, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.07852859  0.01893295  0.90033512  0.00220334], probs: [ 0.8044483
5  0.14551356  0.05003809]
iter 625, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07734296  0.01857769  0.9019352   0.00214415], probs: [ 0.8044483
5  0.14551356  0.05003809]
iter 626, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07617393  0.01822884  0.90351069  0.00208654], probs: [ 0.8050830
1  0.14516152  0.04975548]
iter 627, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07502133  0.01788629  0.90506193  0.00203046], probs: [ 0.8057076
6  0.1448148   0.04947754]
iter 628, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.0792175   0.01862707  0.90004088  0.00211455], probs: [ 0.8063224
5  0.14447334  0.04920422]
iter 629, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.0780216   0.01827757  0.90164308  0.00205775], probs: [ 0.8043877
3  0.14560372  0.05000855]
iter 630, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.08234494  0.01902658  0.89648641  0.00214208], probs: [ 0.8050220
7  0.14525074  0.04972718]
iter 631, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08110476  0.01867014  0.89814053  0.00208457], probs: [ 0.8030365
8  0.14641241  0.05055101]
iter 632, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07988186  0.01832012  0.89976943  0.00202859], probs: [ 0.8036908
3  0.1460477   0.05026147]
iter 633, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07867604  0.01797641  0.90137346  0.0019741 ], probs: [ 0.8043348
6  0.14568846  0.04997668]
iter 634, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07867604  0.01797641  0.90137346  0.0019741 ], probs: [ 0.8049688
1  0.14533462  0.04969657]
iter 635, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.0774871   0.01763889  0.90295295  0.00192106], probs: [ 0.8049688
1  0.14533462  0.04969657]
iter 636, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.0817945   0.01836433  0.8978411   0.00200007], probs: [ 0.8055928
2  0.14498611  0.04942107]
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iter 637, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.08056134  0.01802007  0.89947223  0.00194636], probs: [ 0.8036271
7  0.14613884  0.05023399]
iter 638, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.0793454   0.01768201  0.90107851  0.00189408], probs: [ 0.8042709
6  0.14577864  0.04995039]
iter 639, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07814649  0.01735004  0.90266028  0.00184319], probs: [ 0.8049047
1  0.14542385  0.04967144]
iter 640, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07696441  0.01702408  0.90421786  0.00179366], probs: [ 0.8055285
5  0.14507439  0.04939706]
iter 641, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07579897  0.01670401  0.90575158  0.00174544], probs: [ 0.8061426
3  0.1447302   0.04912717]
iter 642, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07579897  0.01670401  0.90575158  0.00174544], probs: [ 0.8067470
8  0.14439119  0.04886172]
iter 643, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07464997  0.01638974  0.90726178  0.00169851], probs: [ 0.8067470
8  0.14439119  0.04886172]
iter 644, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.07884633  0.0170724   0.90231202  0.00176925], probs: [ 0.8073420
5  0.14405731  0.04860064]
iter 645, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07765385  0.01675168  0.90387277  0.00172171], probs: [ 0.8054418
3  0.14517487  0.0493833 ]
iter 646, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07647814  0.01643677  0.90540966  0.00167543], probs: [ 0.8060561
3  0.14482954  0.04911432]
iter 647, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07531903  0.01612756  0.90692304  0.00163038], probs: [ 0.8066608
4  0.14448941  0.04884975]
iter 648, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07531903  0.01612756  0.90692304  0.00163038], probs: [ 0.8072560
7  0.14415441  0.04858951]
iter 649, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.07954803  0.0167984   0.90195538  0.00169819], probs: [ 0.8072560
7  0.14415441  0.04858951]
iter 650, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07834513  0.01648286  0.90351945  0.00165256], probs: [ 0.8053509
7  0.14527696  0.04937207]
iter 651, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07715915  0.01617304  0.90505968  0.00160814], probs: [ 0.8059655
8  0.14493047  0.04910395]
iter 652, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07598989  0.01586882  0.90657638  0.0015649 ], probs: [ 0.8065706
1  0.14458918  0.0488402 ]
iter 653, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07598989  0.01586882  0.90657638  0.0015649 ], probs: [ 0.8071662
1  0.14425304  0.04858076]
iter 654, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07598989  0.01586882  0.90657638  0.0015649 ], probs: [ 0.8071662
1  0.14425304  0.04858076]
iter 655, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.07598989  0.01586882  0.90657638  0.0015649 ], probs: [ 0.8071662
1  0.14425304  0.04858076]
```

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iter 656, selected_arm: 1, reward_of_selected_arm: 0, weights: [ 0
.07598989  0.01586882  0.90657638  0.0015649 ], probs: [ 0.8071662
1  0.14425304  0.04858076]
iter 657, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07483717  0.01557012  0.90806989  0.00152282], probs: [ 0.8071662
1  0.14425304  0.04858076]
iter 658, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07370079  0.01527685  0.9095405   0.00148185], probs: [ 0.8077524
9  0.14392196  0.04832555]
iter 659, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07258056  0.01498891  0.91098855  0.00144198], probs: [ 0.8083295
9  0.14359589  0.04807452]
iter 660, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07147627  0.01470622  0.91241434  0.00140317], probs: [ 0.8088976
5  0.14327474  0.04782761]
iter 661, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.07038775  0.01442868  0.91381817  0.0013654 ], probs: [ 0.8094567
9  0.14295847  0.04758474]
iter 662, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06931479  0.01415621  0.91520036  0.00132863], probs: [ 0.8100071
5  0.142647    0.04734585]
iter 663, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06825721  0.01388872  0.91656121  0.00129285], probs: [ 0.8105488
4  0.14234027  0.04711089]
iter 664, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06721483  0.01362613  0.91790102  0.00125803], probs: [ 0.811082
0.1420382  0.0468798]
iter 665, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.06721483  0.01362613  0.91790102  0.00125803], probs: [ 0.8116067
5  0.14174075  0.0466525 ]
iter 666, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.06721483  0.01362613  0.91790102  0.00125803], probs: [ 0.8116067
5  0.14174075  0.0466525 ]
iter 667, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06618745  0.01336835  0.91922007  0.00122413], probs: [ 0.8116067
5  0.14174075  0.0466525 ]
iter 668, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06517489  0.0131153   0.92051867  0.00119114], probs: [ 0.8121232
1  0.14144784  0.04642895]
iter 669, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06417697  0.01286689  0.92179711  0.00115903], probs: [ 0.8126315
0.14115942  0.04620909]
iter 670, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06319349  0.01262306  0.92305567  0.00112778], probs: [ 0.8131317
4  0.14087541  0.04599285]
iter 671, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06222429  0.01238371  0.92429463  0.00109737], probs: [ 0.8136240
6  0.14059576  0.04578018]
iter 672, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06126917  0.01214877  0.92551428  0.00106777], probs: [ 0.8141085
6  0.14032041  0.04557103]
iter 673, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.06126917  0.01214877  0.92551428  0.00106777], probs: [ 0.8145853
6  0.1400493   0.04536534]
iter 674, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.06126917  0.01214877  0.92551428  0.00106777], probs: [ 0.8145853
6  0.1400493   0.04536534]
```

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iter 675, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06032796  0.01191817  0.9267149   0.00103897], probs: [ 0.8145853
6  0.1400493   0.04536534]
iter 676, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.05940049  0.01169183  0.92789675  0.00101093], probs: [ 0.8150545
9  0.13978236  0.04516305]
iter 677, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.05848657  0.01146967  0.92906011  0.00098365], probs: [ 0.8155163
4  0.13951954  0.04496411]
iter 678, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.05758603  0.01125163  0.93020525  0.0009571 ], probs: [ 0.8159707
4  0.13926079  0.04476847]
iter 679, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.05758603  0.01125163  0.93020525  0.0009571 ], probs: [ 0.8164178
9  0.13900603  0.04457608]
iter 680, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.05758603  0.01125163  0.93020525  0.0009571 ], probs: [ 0.8164178
9  0.13900603  0.04457608]
iter 681, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.05758603  0.01125163  0.93020525  0.0009571 ], probs: [ 0.8164178
9  0.13900603  0.04457608]
iter 682, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.06102797  0.0117538   0.92621842  0.00099981], probs: [ 0.8164178
9  0.13900603  0.04457608]
iter 683, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.06008998  0.01153062  0.92740656  0.00097284], probs: [ 0.8148949
2  0.13990953  0.04519555]
iter 684, selected_arm: 0, reward_of_selected_arm: 1, weights: [ 0
.05916569  0.01131157  0.92857615  0.00094659], probs: [ 0.8153584
6  0.13964501  0.04499653]
iter 685, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.82549360e-02   1.10965632e-02   9.29727465e-01   9.21035775e-04]
, probs: [ 0.81581464  0.13938457  0.04480079]
iter 686, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.73575269e-02   1.08855412e-02   9.30860761e-01   8.96171278e-04]
, probs: [ 0.81626356  0.13912816  0.04460829]
iter 687, selected_arm: 1, reward_of_selected_arm: 1, weights: [ 0
.06079127  0.01137225  0.92690024  0.00093624], probs: [ 0.8167053
2  0.1388757   0.04441897]
iter 688, selected_arm: 0, reward_of_selected_arm: 0, weights: [ 0
.06079127  0.01137225  0.92690024  0.00093624], probs: [ 0.8151940
1  0.13977402  0.04503197]
iter 689, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.98564590e-02   1.11562424e-02   9.28076322e-01   9.10976712e-04]
, probs: [ 0.81519401  0.13977402  0.04503197]
iter 690, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.89353171e-02   1.09442296e-02   9.29234063e-01   8.86390015e-04]
, probs: [ 0.81565208  0.13951184  0.04483608]
iter 691, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.80276702e-02   1.07361417e-02   9.30373726e-01   8.62462428e-04]
, probs: [ 0.81610287  0.13925371  0.04464342]
iter 692, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.71333430e-02   1.05319099e-02   9.31495571e-01   8.39176478e-04]
, probs: [ 0.81654651  0.13899956  0.04445394]
iter 693, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.62521616e-02   1.03314663e-02   9.32599857e-01   8.16515145e-04]
, probs: [ 0.81698309  0.13874933  0.04426758]
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iter 694, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.53839539e-02   1.01347443e-02   9.33686840e-01   7.94461853e-04]
, probs: [ 0.81741272  0.13850298  0.0440843 ]
iter 695, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.45285491e-02   9.94167799e-03   9.34756772e-01   7.73000459e-04]
, probs: [ 0.81783551  0.13826044  0.04390406]
iter 696, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.45285491e-02   9.94167799e-03   9.34756772e-01   7.73000459e-04]
, probs: [ 0.81825155  0.13802166  0.04372679]
iter 697, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.36857779e-02   9.75220279e-03   9.35809904e-01   7.52115240e-04]
, probs: [ 0.81825155  0.13802166  0.04372679]
iter 698, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.36857779e-02   9.75220279e-03   9.35809904e-01   7.52115240e-04]
, probs: [ 0.81866096  0.13778658  0.04355246]
iter 699, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.28554729e-02   9.56625503e-03   9.36846481e-01   7.31790884e-04]
, probs: [ 0.81866096  0.13778658  0.04355246]
iter 700, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.60713713e-02   1.00018121e-02   9.33161707e-01   7.65109743e-04]
, probs: [ 0.81906382  0.13755516  0.04338102]
iter 701, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.52056007e-02   9.81131514e-03   9.34238641e-01   7.44442764e-04]
, probs: [ 0.81766016  0.13839208  0.04394776]
iter 702, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.52056007e-02   9.81131514e-03   9.34238641e-01   7.44442764e-04]
, probs: [ 0.81807838  0.13815148  0.04377014]
iter 703, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.43526096e-02   9.62436027e-03   9.35298700e-01   7.24330572e-04]
, probs: [ 0.81807838  0.13815148  0.04377014]
iter 704, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.35122286e-02   9.44088474e-03   9.36342128e-01   7.04758425e-04]
, probs: [ 0.81848993  0.13791461  0.04359546]
iter 705, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.26842900e-02   9.26082681e-03   9.37369171e-01   6.85711967e-04]
, probs: [ 0.81889493  0.13768141  0.04342366]
iter 706, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.18686276e-02   9.08412571e-03   9.38380069e-01   6.67177217e-04]
, probs: [ 0.81929346  0.13745183  0.04325471]
iter 707, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.10650769e-02   8.91072165e-03   9.39375061e-01   6.49140560e-04]
, probs: [ 0.81968563  0.13722583  0.04308854]
iter 708, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.10650769e-02   8.91072165e-03   9.39375061e-01   6.49140560e-04]
, probs: [ 0.82007154  0.13700334  0.04292513]
iter 709, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.02734751e-02   8.74055580e-03   9.40354380e-01   6.31588737e-04]
, probs: [ 0.82007154  0.13700334  0.04292513]
iter 710, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.94936608e-02   8.57357029e-03   9.41318260e-01   6.14508836e-04]
, probs: [ 0.82045127  0.13678431  0.04276442]
iter 711, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.25418099e-02   8.96926955e-03   9.37846050e-01   6.42870497e-04]
, probs: [ 0.82082493  0.1365687   0.04260637]
iter 712, selected_arm: 2, reward_of_selected_arm: 1, weights: [ 0
.05846678  0.01120726  0.92938843  0.00093753], probs: [ 0.8195042
3  0.1373583   0.04313747]
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iter 713, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.75663126e-02   1.09941702e-02   9.30527298e-01   9.12219105e-04]
, probs: [ 0.81612518  0.13920062  0.0446742 ]
iter 714, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.75663126e-02   1.09941702e-02   9.30527298e-01   9.12219105e-04]
, probs: [ 0.81656929  0.138947    0.04448371]
iter 715, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.75663126e-02   1.09941702e-02   9.30527298e-01   9.12219105e-04]
, probs: [ 0.81656929  0.138947    0.04448371]
iter 716, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.66790613e-02   1.07850245e-02   9.31648325e-01   8.87589507e-04]
, probs: [ 0.81656929  0.138947    0.04448371]
iter 717, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.58048518e-02   1.05797582e-02   9.32751769e-01   8.63620570e-04]
, probs: [ 0.81700632  0.1386973   0.04429638]
iter 718, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.58048518e-02   1.05797582e-02   9.32751769e-01   8.63620570e-04]
, probs: [ 0.81743637  0.13845148  0.04411215]
iter 719, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.49435133e-02   1.03783030e-02   9.33837889e-01   8.40294764e-04]
, probs: [ 0.81743637  0.13845148  0.04411215]
iter 720, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.40948764e-02   1.01805915e-02   9.34906937e-01   8.17595012e-04]
, probs: [ 0.81785955  0.13820946  0.04393098]
iter 721, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.32587734e-02   9.98655753e-03   9.35959164e-01   7.95504686e-04]
, probs: [ 0.81827597  0.13797121  0.04375282]
iter 722, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.24350380e-02   9.79613593e-03   9.36994818e-01   7.74007588e-04]
, probs: [ 0.81868573  0.13773666  0.04357762]
iter 723, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.16235056e-02   9.60926252e-03   9.38014144e-01   7.53087948e-04]
, probs: [ 0.81908892  0.13750576  0.04340532]
iter 724, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.47751604e-02   1.00484487e-02   9.34388884e-01   7.87507425e-04]
, probs: [ 0.81948565  0.13727846  0.0432359 ]
iter 725, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.39287843e-02   9.85696977e-03   9.35448014e-01   7.66231547e-04]
, probs: [ 0.81810337  0.13810119  0.04379544]
iter 726, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.30949207e-02   9.66905447e-03   9.36490498e-01   7.45526966e-04]
, probs: [ 0.81851525  0.13786485  0.04361991]
iter 727, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.30949207e-02   9.66905447e-03   9.36490498e-01   7.45526966e-04]
, probs: [ 0.81892055  0.13763217  0.04344728]
iter 728, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.63223325e-02   1.01088259e-02   9.32789406e-01   7.79435295e-04]
, probs: [ 0.81892055  0.13763217  0.04344728]
iter 729, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.54529021e-02   9.91632254e-03   9.33872393e-01   7.58382655e-04]
, probs: [ 0.81751038  0.13847265  0.04401698]
iter 730, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.54529021e-02   9.91632254e-03   9.33872393e-01   7.58382655e-04]
, probs: [ 0.81793109  0.13823076  0.04383815]
iter 731, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.45962979e-02   9.72739738e-03   9.34938410e-01   7.37895098e-04]
, probs: [ 0.81793109  0.13823076  0.04383815]
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iter 732, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.79003055e-02   1.01676329e-02   9.31160771e-01   7.71290223e-04]
, probs: [ 0.8183451   0.13799262  0.04366228]
iter 733, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.70074096e-02   9.97413891e-03   9.32267989e-01   7.50462784e-04]
, probs: [ 0.81690677  0.13885101  0.04424222]
iter 734, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.61276576e-02   9.78423699e-03   9.33357911e-01   7.30194161e-04]
, probs: [ 0.81733645  0.1386035   0.04406006]
iter 735, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.52608767e-02   9.59786375e-03   9.34430790e-01   7.10469516e-04]
, probs: [ 0.8177593  0.1383598  0.0438809]
iter 736, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.52608767e-02   9.59786375e-03   9.34430790e-01   7.10469516e-04]
, probs: [ 0.81817544  0.13811988  0.04370469]
iter 737, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.44068955e-02   9.41495676e-03   9.35486873e-01   6.91274400e-04]
, probs: [ 0.81817544  0.13811988  0.04370469]
iter 738, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.35655442e-02   9.23545457e-03   9.36526406e-01   6.72594742e-04]
, probs: [ 0.81858496  0.13788367  0.04353138]
iter 739, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.35655442e-02   9.23545457e-03   9.36526406e-01   6.72594742e-04]
, probs: [ 0.81898796  0.13765112  0.04336092]
iter 740, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.27366545e-02   9.05929674e-03   9.37549632e-01   6.54416837e-04]
, probs: [ 0.81898796  0.13765112  0.04336092]
iter 741, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.27366545e-02   9.05929674e-03   9.37549632e-01   6.54416837e-04]
, probs: [ 0.81938454  0.13742218  0.04319328]
iter 742, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.27366545e-02   9.05929674e-03   9.37549632e-01   6.54416837e-04]
, probs: [ 0.81938454  0.13742218  0.04319328]
iter 743, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.19200600e-02   8.88642376e-03   9.38556789e-01   6.36727338e-04]
, probs: [ 0.81938454  0.13742218  0.04319328]
iter 744, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.11155956e-02   8.71677710e-03   9.39548114e-01   6.19513249e-04]
, probs: [ 0.8197748   0.13719679  0.0430284 ]
iter 745, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.11155956e-02   8.71677710e-03   9.39548114e-01   6.19513249e-04]
, probs: [ 0.82015884  0.13697491  0.04286625]
iter 746, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.11155956e-02   8.71677710e-03   9.39548114e-01   6.19513249e-04]
, probs: [ 0.82015884  0.13697491  0.04286625]
iter 747, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.03230980e-02   8.55029916e-03   9.40523841e-01   6.02761913e-04]
, probs: [ 0.82015884  0.13697491  0.04286625]
iter 748, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.95424056e-02   8.38693327e-03   9.41484200e-01   5.86461005e-04]
, probs: [ 0.82053674  0.13675649  0.04270678]
iter 749, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.87733582e-02   8.22662371e-03   9.42429420e-01   5.70598524e-04]
, probs: [ 0.8209086   0.13654147  0.04254994]
iter 750, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.80157975e-02   8.06931564e-03   9.43359724e-01   5.55162783e-04]
, probs: [ 0.82127451  0.1363298   0.04239569]
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iter 751, selected_arm: 2, reward_of_selected_arm: 1, weights: [
5.35956946e-02   1.01387766e-02   9.35448746e-01   8.16782921e-04]
, probs: [ 0.82163456  0.13612144  0.042244  ]
iter 752, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.27670292e-02   9.94549626e-03   9.36492762e-01   7.94712685e-04]
, probs: [ 0.8184795   0.13784673  0.04367377]
iter 753, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.27670292e-02   9.94549626e-03   9.36492762e-01   7.94712685e-04]
, probs: [ 0.81888616  0.13761406  0.04349979]
iter 754, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.19506303e-02   9.75581580e-03   9.37520319e-01   7.73235219e-04]
, probs: [ 0.81888616  0.13761406  0.04349979]
iter 755, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.19506303e-02   9.75581580e-03   9.37520319e-01   7.73235219e-04]
, probs: [ 0.8192863   0.13738501  0.04332869]
iter 756, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.51181030e-02   1.02010467e-02   9.33872327e-01   8.08523729e-04]
, probs: [ 0.8192863   0.13738501  0.04332869]
iter 757, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.42667205e-02   1.00067046e-02   9.34939893e-01   7.86681932e-04]
, probs: [ 0.81789491  0.13821269  0.0438924 ]
iter 758, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.34279145e-02   9.81597765e-03   9.35990681e-01   7.65426544e-04]
, probs: [ 0.81831029  0.13797456  0.04371516]
iter 759, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.26015184e-02   9.62880188e-03   9.37024938e-01   7.44741979e-04]
, probs: [ 0.81871902  0.13774012  0.04354086]
iter 760, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.17873667e-02   9.44511416e-03   9.38042906e-01   7.24613061e-04]
, probs: [ 0.81912122  0.13750933  0.04336945]
iter 761, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.09852956e-02   9.26485243e-03   9.39044827e-01   7.05025008e-04]
, probs: [ 0.81951699  0.13728213  0.04320088]
iter 762, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.01951431e-02   9.08795562e-03   9.40030938e-01   6.85963426e-04]
, probs: [ 0.81990641  0.13705847  0.04303512]
iter 763, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.94167486e-02   8.91436365e-03   9.41001473e-01   6.67414299e-04]
, probs: [ 0.82028959  0.1368383   0.04287211]
iter 764, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.86499530e-02   8.74401740e-03   9.41956666e-01   6.49363976e-04]
, probs: [ 0.82066662  0.13662157  0.04271181]
iter 765, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.16520846e-02   9.14847850e-03   9.38520036e-01   6.79400795e-04]
, probs: [ 0.82103759  0.13640823  0.04255418]
iter 766, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.08518317e-02   8.97383771e-03   9.39513297e-01   6.61033353e-04]
, probs: [ 0.81972888  0.13718894  0.04308218]
iter 767, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.08518317e-02   8.97383771e-03   9.39513297e-01   6.61033353e-04]
, probs: [ 0.82011433  0.13696694  0.04291873]
iter 768, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.39682946e-02   9.38574410e-03   9.35954586e-01   6.91375318e-04]
, probs: [ 0.82011433  0.13696694  0.04291873]
iter 769, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.72430011e-02   9.81178547e-03   9.32222455e-01   7.22758496e-04]
, probs: [ 0.81875988  0.1377758   0.04346432]
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iter 770, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.72430011e-02   9.81178547e-03   9.32222455e-01   7.22758496e-04]
, probs: [ 0.81734002  0.13862441  0.04403556]
iter 771, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.72430011e-02   9.81178547e-03   9.32222455e-01   7.22758496e-04]
, probs: [ 0.81734002  0.13862441  0.04403556]
iter 772, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.63596089e-02   9.62497403e-03   9.33312179e-01   7.03238093e-04]
, probs: [ 0.81734002  0.13862441  0.04403556]
iter 773, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.63596089e-02   9.62497403e-03   9.33312179e-01   7.03238093e-04]
, probs: [ 0.81776236  0.13838056  0.04385708]
iter 774, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.54892421e-02   9.44163396e-03   9.34384882e-01   6.84241592e-04]
, probs: [ 0.81776236  0.13838056  0.04385708]
iter 775, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.46317288e-02   9.26170383e-03   9.35440812e-01   6.65755077e-04]
, probs: [ 0.818178    0.13814047  0.04368153]
iter 776, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.37868982e-02   9.08512320e-03   9.36480214e-01   6.47764995e-04]
, probs: [ 0.81858703  0.1379041   0.04350887]
iter 777, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.37868982e-02   9.08512320e-03   9.36480214e-01   6.47764995e-04]
, probs: [ 0.81898957  0.13767139  0.04333904]
iter 778, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.37868982e-02   9.08512320e-03   9.36480214e-01   6.47764995e-04]
, probs: [ 0.81898957  0.13767139  0.04333904]
iter 779, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.29545816e-02   8.91183257e-03   9.37503328e-01   6.30258146e-04]
, probs: [ 0.81898957  0.13767139  0.04333904]
iter 780, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.21346115e-02   8.74177343e-03   9.38510393e-01   6.13221677e-04]
, probs: [ 0.81938571  0.13744228  0.04317201]
iter 781, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.53198689e-02   9.14164801e-03   9.34897211e-01   6.41272250e-04]
, probs: [ 0.81977553  0.13721673  0.04300773]
iter 782, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.53198689e-02   9.14164801e-03   9.34897211e-01   6.41272250e-04]
, probs: [ 0.81840256  0.13803911  0.04355833]
iter 783, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.44646573e-02   8.96739179e-03   9.35944006e-01   6.23945067e-04]
, probs: [ 0.81840256  0.13803911  0.04355833]
iter 784, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.36221056e-02   8.79638111e-03   9.36974430e-01   6.07083258e-04]
, probs: [ 0.81880746  0.1378045   0.04338803]
iter 785, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.27920448e-02   8.62855824e-03   9.37988722e-01   5.90674445e-04]
, probs: [ 0.81920594  0.13757353  0.04322053]
iter 786, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.19743075e-02   8.46386643e-03   9.38987120e-01   5.74706577e-04]
, probs: [ 0.81959809  0.13734613  0.04305577]
iter 787, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.19743075e-02   8.46386643e-03   9.38987120e-01   5.74706577e-04]
, probs: [ 0.81998401  0.13712226  0.04289373]
iter 788, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.11687278e-02   8.30224979e-03   9.39969854e-01   5.59167915e-04]
, probs: [ 0.81998401  0.13712226  0.04289373]
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iter 789, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.43071119e-02   8.68366925e-03   9.36424362e-01   5.84857039e-04]
, probs: [ 0.82036378  0.13690187  0.04273434]
iter 790, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.34667075e-02   8.51803107e-03   9.37446211e-01   5.69050205e-04]
, probs: [ 0.8190179   0.13770953  0.04327257]
iter 791, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.26387723e-02   8.35548202e-03   9.38452078e-01   5.53668088e-04]
, probs: [ 0.8194125   0.13748022  0.04310728]
iter 792, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.18231389e-02   8.19596705e-03   9.39442195e-01   5.38699385e-04]
, probs: [ 0.81980085  0.13725445  0.0429447 ]
iter 793, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.10196414e-02   8.03943195e-03   9.40416794e-01   5.24133089e-04]
, probs: [ 0.82018303  0.13703219  0.04278478]
iter 794, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.02281157e-02   7.88582341e-03   9.41376102e-01   5.09958481e-04]
, probs: [ 0.82055914  0.13681337  0.04262749]
iter 795, selected_arm: 2, reward_of_selected_arm: 1, weights: [
5.60206666e-02   9.89406238e-03   9.33336704e-01   7.48567031e-04]
, probs: [ 0.82092926  0.13659795  0.04247278]
iter 796, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.51555683e-02   9.70560155e-03   9.34410484e-01   7.28346256e-04]
, probs: [ 0.81773778  0.13835784  0.04390438]
iter 797, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.51555683e-02   9.70560155e-03   9.34410484e-01   7.28346256e-04]
, probs: [ 0.81815455  0.13811785  0.0437276 ]
iter 798, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.43032435e-02   9.52064559e-03   9.35467443e-01   7.08668320e-04]
, probs: [ 0.81815455  0.13811785  0.0437276 ]
iter 799, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.34635227e-02   9.33913236e-03   9.36507826e-01   6.89518798e-04]
, probs: [ 0.81856468  0.13788157  0.04355375]
iter 800, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.34635227e-02   9.33913236e-03   9.36507826e-01   6.89518798e-04]
, probs: [ 0.81896829  0.13764895  0.04338276]
iter 801, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.26362382e-02   9.16100076e-03   9.37531877e-01   6.70883640e-04]
, probs: [ 0.81896829  0.13764895  0.04338276]
iter 802, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.58441193e-02   9.57888218e-03   9.33875512e-01   7.01486171e-04]
, probs: [ 0.81936545  0.13741995  0.04321459]
iter 803, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.49814112e-02   9.39637740e-03   9.34939676e-01   6.82535337e-04]
, probs: [ 0.81797442  0.13825132  0.04377426]
iter 804, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.49814112e-02   9.39637740e-03   9.34939676e-01   6.82535337e-04]
, probs: [ 0.81838683  0.13801319  0.04359999]
iter 805, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.41314532e-02   9.21726854e-03   9.35987185e-01   6.64093333e-04]
, probs: [ 0.81838683  0.13801319  0.04359999]
iter 806, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.41314532e-02   9.21726854e-03   9.35987185e-01   6.64093333e-04]
, probs: [ 0.81879268  0.13777874  0.04342858]
iter 807, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.74159370e-02   9.63564476e-03   9.32254181e-01   6.94236847e-04]
, probs: [ 0.81879268  0.13777874  0.04342858]
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iter 808, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.65298275e-02   9.45218028e-03   9.33342506e-01   6.75486511e-04]
, probs: [ 0.81737344  0.13862804  0.04399852]
iter 809, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.65298275e-02   9.45218028e-03   9.33342506e-01   6.75486511e-04]
, probs: [ 0.81779479  0.13838429  0.04382092]
iter 810, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.56567859e-02   9.27212531e-03   9.34413849e-01   6.57239424e-04]
, probs: [ 0.81779479  0.13838429  0.04382092]
iter 811, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.47966393e-02   9.09541949e-03   9.35468459e-01   6.39482217e-04]
, probs: [ 0.81820946  0.13814431  0.04364623]
iter 812, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.39492166e-02   8.92200345e-03   9.36506578e-01   6.22201870e-04]
, probs: [ 0.81861756  0.13790803  0.04347441]
iter 813, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.72267964e-02   9.32755280e-03   9.32795167e-01   6.50484035e-04]
, probs: [ 0.81901918  0.13767541  0.04330541]
iter 814, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.63432621e-02   9.14990830e-03   9.33873916e-01   6.32913697e-04]
, probs: [ 0.81760944  0.13852045  0.04387011]
iter 815, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.54727698e-02   8.97556692e-03   9.34935848e-01   6.15815015e-04]
, probs: [ 0.81802648  0.13827856  0.04369496]
iter 816, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.46151464e-02   8.80447013e-03   9.35981208e-01   5.99175457e-04]
, probs: [ 0.81843691  0.13804041  0.04352268]
iter 817, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.37702209e-02   8.63656032e-03   9.37010236e-01   5.82982818e-04]
, probs: [ 0.81884085  0.13780593  0.04335321]
iter 818, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.29378234e-02   8.47178084e-03   9.38023171e-01   5.67225210e-04]
, probs: [ 0.81923839  0.13757508  0.04318653]
iter 819, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.21177861e-02   8.31007589e-03   9.39020247e-01   5.51891058e-04]
, probs: [ 0.81962962  0.13734781  0.04302257]
iter 820, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.21177861e-02   8.31007589e-03   9.39020247e-01   5.51891058e-04]
, probs: [ 0.82001464  0.13712405  0.04286131]
iter 821, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.13099426e-02   8.15139062e-03   9.40001698e-01   5.36969089e-04]
, probs: [ 0.82001464  0.13712405  0.04286131]
iter 822, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.05141281e-02   7.99567105e-03   9.40967752e-01   5.22448328e-04]
, probs: [ 0.82039355  0.13690376  0.04270269]
iter 823, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.97301798e-02   7.84286407e-03   9.41918638e-01   5.08318084e-04]
, probs: [ 0.82076643  0.1366869   0.04254667]
iter 824, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.89579363e-02   7.69291744e-03   9.42854578e-01   4.94567950e-04]
, probs: [ 0.82113337  0.13647341  0.04239322]
iter 825, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.81972378e-02   7.54577979e-03   9.43775795e-01   4.81187789e-04]
, probs: [ 0.82149446  0.13626324  0.0422423 ]
iter 826, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.74479264e-02   7.40140057e-03   9.44682505e-01   4.68167732e-04]
, probs: [ 0.8218498   0.13605634  0.04209386]
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iter 827, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.67098459e-02   7.25973008e-03   9.45574926e-01   4.55498172e-04]
, probs: [ 0.82219947  0.13585267  0.04194786]
iter 828, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.59828414e-02   7.12071944e-03   9.46453269e-01   4.43169749e-04]
, probs: [ 0.82254356  0.13565218  0.04180426]
iter 829, selected_arm: 2, reward_of_selected_arm: 0, weights: [
4.59828414e-02   7.12071944e-03   9.46453269e-01   4.43169749e-04]
, probs: [ 0.82288214  0.13545482  0.04166304]
iter 830, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.59828414e-02   7.12071944e-03   9.46453269e-01   4.43169749e-04]
, probs: [ 0.82288214  0.13545482  0.04166304]
iter 831, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.59828414e-02   7.12071944e-03   9.46453269e-01   4.43169749e-04]
, probs: [ 0.82288214  0.13545482  0.04166304]
iter 832, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.59828414e-02   7.12071944e-03   9.46453269e-01   4.43169749e-04]
, probs: [ 0.82288214  0.13545482  0.04166304]
iter 833, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.52667601e-02   6.98432058e-03   9.47317746e-01   4.31173356e-04]
, probs: [ 0.82288214  0.13545482  0.04166304]
iter 834, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.52667601e-02   6.98432058e-03   9.47317746e-01   4.31173356e-04]
, probs: [ 0.82321532  0.13526054  0.04152414]
iter 835, selected_arm: 2, reward_of_selected_arm: 0, weights: [
4.52667601e-02   6.98432058e-03   9.47317746e-01   4.31173356e-04]
, probs: [ 0.82321532  0.13526054  0.04152414]
iter 836, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.52667601e-02   6.98432058e-03   9.47317746e-01   4.31173356e-04]
, probs: [ 0.82321532  0.13526054  0.04152414]
iter 837, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.45614507e-02   6.85048623e-03   9.48168563e-01   4.19500120e-04]
, probs: [ 0.82321532  0.13526054  0.04152414]
iter 838, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.45614507e-02   6.85048623e-03   9.48168563e-01   4.19500120e-04]
, probs: [ 0.82354315  0.13506931  0.04138754]
iter 839, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.45614507e-02   6.85048623e-03   9.48168563e-01   4.19500120e-04]
, probs: [ 0.82354315  0.13506931  0.04138754]
iter 840, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.38667634e-02   6.71916991e-03   9.49005925e-01   4.08141406e-04]
, probs: [ 0.82354315  0.13506931  0.04138754]
iter 841, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.31825504e-02   6.59032592e-03   9.49830035e-01   3.97088806e-04]
, probs: [ 0.82386574  0.13488107  0.04125319]
iter 842, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.25086654e-02   6.46390932e-03   9.50641091e-01   3.86334131e-04]
, probs: [ 0.82418316  0.13469578  0.04112106]
iter 843, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.18449635e-02   6.33987595e-03   9.51439291e-01   3.75869413e-04]
, probs: [ 0.82449549  0.1345134   0.04099111]
iter 844, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.18449635e-02   6.33987595e-03   9.51439291e-01   3.75869413e-04]
, probs: [ 0.8248028   0.13433389  0.04086331]
iter 845, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.44943337e-02   6.64165600e-03   9.48470249e-01   3.93760913e-04]
, probs: [ 0.8248028   0.13433389  0.04086331]
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iter 846, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.38005422e-02   6.51432423e-03   9.49302035e-01   3.83098554e-04]
, probs: [ 0.82367811  0.13501138  0.04131051]
iter 847, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.31172169e-02   6.38939049e-03   9.50120669e-01   3.72723569e-04]
, probs: [ 0.82399814  0.1348242   0.04117767]
iter 848, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.24442112e-02   6.26681118e-03   9.50926349e-01   3.62628271e-04]
, probs: [ 0.82431304  0.13463994  0.04104702]
iter 849, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.24442112e-02   6.26681118e-03   9.50926349e-01   3.62628271e-04]
, probs: [ 0.8246229   0.13445858  0.04091852]
iter 850, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.17813805e-02   6.14654341e-03   9.51719271e-01   3.52805176e-04]
, probs: [ 0.8246229   0.13445858  0.04091852]
iter 851, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.17813805e-02   6.14654341e-03   9.51719271e-01   3.52805176e-04]
, probs: [ 0.82492779  0.13428006  0.04079215]
iter 852, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.17813805e-02   6.14654341e-03   9.51719271e-01   3.52805176e-04]
, probs: [ 0.82492779  0.13428006  0.04079215]
iter 853, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.11285817e-02   6.02854504e-03   9.52499626e-01   3.43246998e-04]
, probs: [ 0.82492779  0.13428006  0.04079215]
iter 854, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.04856734e-02   5.91277464e-03   9.53267605e-01   3.33946643e-04]
, probs: [ 0.8252278   0.13410434  0.04066786]
iter 855, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.98525157e-02   5.79919149e-03   9.54023396e-01   3.24897207e-04]
, probs: [ 0.82552298  0.13393139  0.04054562]
iter 856, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.92289707e-02   5.68775555e-03   9.54767182e-01   3.16091966e-04]
, probs: [ 0.82581343  0.13376116  0.04042541]
iter 857, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.86149017e-02   5.57842749e-03   9.55499146e-01   3.07524377e-04]
, probs: [ 0.82609922  0.13359361  0.04030718]
iter 858, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.86149017e-02   5.57842749e-03   9.55499146e-01   3.07524377e-04]
, probs: [ 0.8263804   0.13342869  0.04019091]
iter 859, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.80101739e-02   5.47116863e-03   9.56219469e-01   2.99188066e-04]
, probs: [ 0.8263804   0.13342869  0.04019091]
iter 860, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.74146540e-02   5.36594097e-03   9.56928328e-01   2.91076834e-04]
, probs: [ 0.82665706  0.13326638  0.04007656]
iter 861, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.68282105e-02   5.26270717e-03   9.57625898e-01   2.83184640e-04]
, probs: [ 0.82692927  0.13310663  0.0399641 ]
iter 862, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.62507132e-02   5.16143053e-03   9.58312351e-01   2.75505609e-04]
, probs: [ 0.8271971   0.1329494   0.03985351]
iter 863, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.56820336e-02   5.06207497e-03   9.58987857e-01   2.68034019e-04]
, probs: [ 0.82746061  0.13279465  0.03974474]
iter 864, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.51220450e-02   4.96460507e-03   9.59652586e-01   2.60764300e-04]
, probs: [ 0.82771987  0.13264235  0.03963778]
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iter 865, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.45706220e-02   4.86898600e-03   9.60306701e-01   2.53691030e-04]
, probs: [ 0.82797494  0.13249246  0.0395326 ]
iter 866, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.45706220e-02   4.86898600e-03   9.60306701e-01   2.53691030e-04]
, probs: [ 0.8282259   0.13234494  0.03942915]
iter 867, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.40276408e-02   4.77518356e-03   9.60950367e-01   2.46808934e-04]
, probs: [ 0.8282259   0.13234494  0.03942915]
iter 868, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.40276408e-02   4.77518356e-03   9.60950367e-01   2.46808934e-04]
, probs: [ 0.82847281  0.13219976  0.03932743]
iter 869, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.34929792e-02   4.68316412e-03   9.61583744e-01   2.40112873e-04]
, probs: [ 0.82847281  0.13219976  0.03932743]
iter 870, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.34929792e-02   4.68316412e-03   9.61583744e-01   2.40112873e-04]
, probs: [ 0.82871573  0.13205688  0.03922739]
iter 871, selected_arm: 2, reward_of_selected_arm: 1, weights: [
3.78176506e-02   6.00670313e-03   9.55810623e-01   3.65023031e-04]
, probs: [ 0.82871573  0.13205688  0.03922739]
iter 872, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.02421642e-02   6.29663258e-03   9.53078561e-01   3.82641835e-04]
, probs: [ 0.82644564  0.13332957  0.04022479]
iter 873, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.96129284e-02   6.17569021e-03   9.53839108e-01   3.72273302e-04]
, probs: [ 0.82540943  0.13395227  0.04063831]
iter 874, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.89932410e-02   6.05703354e-03   9.54587541e-01   3.62184536e-04]
, probs: [ 0.82570257  0.13378139  0.04051604]
iter 875, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.83829667e-02   5.94062072e-03   9.55324045e-01   3.52368040e-04]
, probs: [ 0.82599099  0.13361321  0.0403958 ]
iter 876, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.77819717e-02   5.82641061e-03   9.56048801e-01   3.42816516e-04]
, probs: [ 0.82627475  0.13344769  0.04027757]
iter 877, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.77819717e-02   5.82641061e-03   9.56048801e-01   3.42816516e-04]
, probs: [ 0.82655393  0.13328478  0.0401613 ]
iter 878, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.77819717e-02   5.82641061e-03   9.56048801e-01   3.42816516e-04]
, probs: [ 0.82655393  0.13328478  0.0401613 ]
iter 879, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.77819717e-02   5.82641061e-03   9.56048801e-01   3.42816516e-04]
, probs: [ 0.82655393  0.13328478  0.0401613 ]
iter 880, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.02055490e-02   6.10781221e-03   9.53327265e-01   3.59373728e-04]
, probs: [ 0.82655393  0.13328478  0.0401613 ]
iter 881, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.95767722e-02   5.99048241e-03   9.54083110e-01   3.49635255e-04]
, probs: [ 0.82552256  0.13390553  0.04057191]
iter 882, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.95767722e-02   5.99048241e-03   9.54083110e-01   3.49635255e-04]
, probs: [ 0.82581352  0.13373552  0.04045096]
iter 883, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.89575410e-02   5.87537060e-03   9.54826929e-01   3.40159569e-04]
, probs: [ 0.82581352  0.13373552  0.04045096]
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iter 884, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.83477198e-02   5.76243614e-03   9.55558904e-01   3.30939627e-04]
, probs: [ 0.82609978  0.13356819  0.04033202]
iter 885, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.77471748e-02   5.65163908e-03   9.56279218e-01   3.21968574e-04]
, probs: [ 0.82638144  0.13340351  0.04021506]
iter 886, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.71557737e-02   5.54294018e-03   9.56988046e-01   3.13239735e-04]
, probs: [ 0.82665855  0.13324142  0.04010003]
iter 887, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.65733858e-02   5.43630087e-03   9.57685567e-01   3.04746612e-04]
, probs: [ 0.82693119  0.1330819   0.03998691]
iter 888, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.59998818e-02   5.33168324e-03   9.58371952e-01   2.96482881e-04]
, probs: [ 0.82719943  0.13292489  0.03987568]
iter 889, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.54351344e-02   5.22905004e-03   9.59047373e-01   2.88442384e-04]
, probs: [ 0.82746334  0.13277038  0.03976629]
iter 890, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.48790175e-02   5.12836467e-03   9.59711999e-01   2.80619129e-04]
, probs: [ 0.82772298  0.1326183   0.03965872]
iter 891, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.43314067e-02   5.02959115e-03   9.60365995e-01   2.73007282e-04]
, probs: [ 0.82797842  0.13246864  0.03955294]
iter 892, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.37921792e-02   4.93269416e-03   9.61009525e-01   2.65601163e-04]
, probs: [ 0.82822973  0.13232135  0.03944892]
iter 893, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.32612135e-02   4.83763898e-03   9.61642752e-01   2.58395244e-04]
, probs: [ 0.82847698  0.1321764   0.03934663]
iter 894, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.27383899e-02   4.74439149e-03   9.62265834e-01   2.51384145e-04]
, probs: [ 0.82872022  0.13203374  0.03924604]
iter 895, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.48752928e-02   4.97800724e-03   9.59882938e-01   2.63762402e-04]
, probs: [ 0.82895952  0.13189336  0.03914712]
iter 896, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.43276716e-02   4.88212156e-03   9.60533599e-01   2.56607570e-04]
, probs: [ 0.82805808  0.13243767  0.03950425]
iter 897, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.43276716e-02   4.88212156e-03   9.60533599e-01   2.56607570e-04]
, probs: [ 0.82830781  0.13229098  0.03940122]
iter 898, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.43276716e-02   4.88212156e-03   9.60533599e-01   2.56607570e-04]
, probs: [ 0.82830781  0.13229098  0.03940122]
iter 899, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.37884364e-02   4.78805786e-03   9.61173860e-01   2.49646125e-04]
, probs: [ 0.82830781  0.13229098  0.03940122]
iter 900, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.37884364e-02   4.78805786e-03   9.61173860e-01   2.49646125e-04]
, probs: [ 0.8285535   0.13214661  0.03929989]
iter 901, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.32574655e-02   4.69578242e-03   9.61803879e-01   2.42872871e-04]
, probs: [ 0.8285535   0.13214661  0.03929989]
iter 902, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.32574655e-02   4.69578242e-03   9.61803879e-01   2.42872871e-04]
, probs: [ 0.82879522  0.13200454  0.03920025]
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iter 903, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.54252250e-02   4.92664693e-03   9.59393315e-01   2.54813528e-04]
, probs: [ 0.82879522  0.13200454  0.03920025]
iter 904, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.48691223e-02   4.83176815e-03   9.60051208e-01   2.47901927e-04]
, probs: [ 0.8278839  0.1325555  0.0395606]
iter 905, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.43215306e-02   4.73869162e-03   9.60698601e-01   2.41177118e-04]
, probs: [ 0.82813615  0.13240705  0.0394568 ]
iter 906, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.43215306e-02   4.73869162e-03   9.60698601e-01   2.41177118e-04]
, probs: [ 0.82838434  0.13226095  0.03935472]
iter 907, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.37823268e-02   4.64738399e-03   9.61335655e-01   2.34634084e-04]
, probs: [ 0.82838434  0.13226095  0.03935472]
iter 908, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.32513892e-02   4.55781251e-03   9.61962530e-01   2.28267938e-04]
, probs: [ 0.82862851  0.13211716  0.03925433]
iter 909, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.32513892e-02   4.55781251e-03   9.61962530e-01   2.28267938e-04]
, probs: [ 0.82886875  0.13197565  0.0391556 ]
iter 910, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.27285979e-02   4.46994501e-03   9.62579383e-01   2.22073926e-04]
, probs: [ 0.82886875  0.13197565  0.0391556 ]
iter 911, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.22138343e-02   4.38374988e-03   9.63186368e-01   2.16047419e-04]
, probs: [ 0.8291051   0.13183639  0.03905851]
iter 912, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.17069814e-02   4.29919606e-03   9.63783639e-01   2.10183912e-04]
, probs: [ 0.82933763  0.13169933  0.03896303]
iter 913, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.17069814e-02   4.29919606e-03   9.63783639e-01   2.10183912e-04]
, probs: [ 0.8295664   0.13156446  0.03886914]
iter 914, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.17069814e-02   4.29919606e-03   9.63783639e-01   2.10183912e-04]
, probs: [ 0.8295664   0.13156446  0.03886914]
iter 915, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.12079236e-02   4.21625305e-03   9.64371344e-01   2.04479021e-04]
, probs: [ 0.8295664   0.13156446  0.03886914]
iter 916, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.32567581e-02   4.42520134e-03   9.62103428e-01   2.14612554e-04]
, probs: [ 0.82979147  0.13143172  0.03877681]
iter 917, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.32567581e-02   4.42520134e-03   9.62103428e-01   2.14612554e-04]
, probs: [ 0.82893504  0.13195058  0.03911438]
iter 918, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.32567581e-02   4.42520134e-03   9.62103428e-01   2.14612554e-04]
, probs: [ 0.82893504  0.13195058  0.03911438]
iter 919, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.32567581e-02   4.42520134e-03   9.62103428e-01   2.14612554e-04]
, probs: [ 0.82893504  0.13195058  0.03911438]
iter 920, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.27338279e-02   4.33988441e-03   9.62717499e-01   2.08788926e-04]
, probs: [ 0.82893504  0.13195058  0.03911438]
iter 921, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.22189295e-02   4.25619154e-03   9.63321756e-01   2.03122794e-04]
, probs: [ 0.82917007  0.13181181  0.03901812]
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iter 922, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.43276809e-02   4.46640472e-03   9.60992759e-01   2.13155023e-04]
, probs: [ 0.82940129  0.13167524  0.03892347]
iter 923, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.43276809e-02   4.46640472e-03   9.60992759e-01   2.13155023e-04]
, probs: [ 0.82852225  0.13220833  0.03926942]
iter 924, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.37882633e-02   4.38033111e-03   9.61624034e-01   2.07371900e-04]
, probs: [ 0.82852225  0.13220833  0.03926942]
iter 925, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.37882633e-02   4.38033111e-03   9.61624034e-01   2.07371900e-04]
, probs: [ 0.82876367  0.13206557  0.03917076]
iter 926, selected_arm: 2, reward_of_selected_arm: 1, weights: [
3.81602093e-02   5.62066730e-03   9.55903662e-01   3.15460940e-04]
, probs: [ 0.82876367  0.13206557  0.03917076]
iter 927, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.81602093e-02   5.62066730e-03   9.55903662e-01   3.15460940e-04]
, probs: [ 0.82652418  0.13333133  0.0401445 ]
iter 928, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.81602093e-02   5.62066730e-03   9.55903662e-01   3.15460940e-04]
, probs: [ 0.82652418  0.13333133  0.0401445 ]
iter 929, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.75624651e-02   5.51257963e-03   9.56618046e-01   3.06908991e-04]
, probs: [ 0.82652418  0.13333133  0.0401445 ]
iter 930, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.69738267e-02   5.40653944e-03   9.57321046e-01   2.98587963e-04]
, probs: [ 0.82679877  0.13317046  0.04003077]
iter 931, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.69738267e-02   5.40653944e-03   9.57321046e-01   2.98587963e-04]
, probs: [ 0.82706894  0.13301213  0.03991893]
iter 932, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.69738267e-02   5.40653944e-03   9.57321046e-01   2.98587963e-04]
, probs: [ 0.82706894  0.13301213  0.03991893]
iter 933, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.63941639e-02   5.30250905e-03   9.58012835e-01   2.90491659e-04]
, probs: [ 0.82706894  0.13301213  0.03991893]
iter 934, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.58233478e-02   5.20045144e-03   9.58693587e-01   2.82614050e-04]
, probs: [ 0.82733475  0.13285631  0.03980894]
iter 935, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.52612514e-02   5.10033026e-03   9.59363469e-01   2.74949263e-04]
, probs: [ 0.82759627  0.13270295  0.03970078]
iter 936, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.47077491e-02   5.00210976e-03   9.60022650e-01   2.67491586e-04]
, probs: [ 0.82785356  0.13255202  0.03959442]
iter 937, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.47077491e-02   5.00210976e-03   9.60022650e-01   2.67491586e-04]
, probs: [ 0.8281067   0.13240347  0.03948982]
iter 938, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.41627167e-02   4.90575483e-03   9.60671293e-01   2.60235454e-04]
, probs: [ 0.8281067   0.13240347  0.03948982]
iter 939, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.36260319e-02   4.81123097e-03   9.61309562e-01   2.53175453e-04]
, probs: [ 0.82835575  0.13225729  0.03938696]
iter 940, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.30975736e-02   4.71850427e-03   9.61937616e-01   2.46306313e-04]
, probs: [ 0.82860077  0.13211342  0.03928581]
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iter 941, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.30975736e-02   4.71850427e-03   9.61937616e-01   2.46306313e-04]
, probs: [ 0.82884183  0.13197183  0.03918634]
iter 942, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.30975736e-02   4.71850427e-03   9.61937616e-01   2.46306313e-04]
, probs: [ 0.82884183  0.13197183  0.03918634]
iter 943, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.25772225e-02   4.62754145e-03   9.62555613e-01   2.39622903e-04]
, probs: [ 0.82884183  0.13197183  0.03918634]
iter 944, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.20648606e-02   4.53830977e-03   9.63163709e-01   2.33120228e-04]
, probs: [ 0.82907898  0.13183249  0.03908852]
iter 945, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.15603715e-02   4.45077711e-03   9.63762058e-01   2.26793429e-04]
, probs: [ 0.82931229  0.13169537  0.03899234]
iter 946, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.10636403e-02   4.36491189e-03   9.64350810e-01   2.20637774e-04]
, probs: [ 0.82954183  0.13156042  0.03889775]
iter 947, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.05745535e-02   4.28068309e-03   9.64930115e-01   2.14648658e-04]
, probs: [ 0.82976764  0.13142762  0.03880474]
iter 948, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.00929991e-02   4.19806026e-03   9.65500119e-01   2.08821599e-04]
, probs: [ 0.82998979  0.13129694  0.03871327]
iter 949, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.96188667e-02   4.11701347e-03   9.66060968e-01   2.03152234e-04]
, probs: [ 0.83020833  0.13116833  0.03862333]
iter 950, selected_arm: 2, reward_of_selected_arm: 1, weights: [
3.35402243e-02   5.30799645e-03   9.60840390e-01   3.11389777e-04]
, probs: [ 0.83042333  0.13104178  0.03853489]
iter 951, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.30133041e-02   5.20572030e-03   9.61478034e-01   3.02941934e-04]
, probs: [ 0.82837222  0.13219324  0.03943455]
iter 952, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.30133041e-02   5.20572030e-03   9.61478034e-01   3.02941934e-04]
, probs: [ 0.828618    0.13205001  0.039332  ]
iter 953, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.30133041e-02   5.20572030e-03   9.61478034e-01   3.02941934e-04]
, probs: [ 0.828618    0.13205001  0.039332  ]
iter 954, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.24944605e-02   5.10538868e-03   9.62105428e-01   2.94722470e-04]
, probs: [ 0.828618    0.13205001  0.039332  ]
iter 955, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.24944605e-02   5.10538868e-03   9.62105428e-01   2.94722470e-04]
, probs: [ 0.82885978  0.13190906  0.03923117]
iter 956, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.19835762e-02   5.00696555e-03   9.62722733e-01   2.86725245e-04]
, probs: [ 0.82885978  0.13190906  0.03923117]
iter 957, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.14805354e-02   4.91041553e-03   9.63330105e-01   2.78944285e-04]
, probs: [ 0.82909762  0.13177035  0.03913202]
iter 958, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.14805354e-02   4.91041553e-03   9.63330105e-01   2.78944285e-04]
, probs: [ 0.82933159  0.13163386  0.03903454]
iter 959, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.35420384e-02   5.15308213e-03   9.61012150e-01   2.92729363e-04]
, probs: [ 0.82933159  0.13163386  0.03903454]
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iter 960, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.30150227e-02   5.05378244e-03   9.61646407e-01   2.84787513e-04]
, probs: [ 0.82845301  0.13216242  0.03938457]
iter 961, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.24960874e-02   4.95637102e-03   9.62270481e-01   2.77060374e-04]
, probs: [ 0.82869717  0.13201979  0.03928304]
iter 962, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.24960874e-02   4.95637102e-03   9.62270481e-01   2.77060374e-04]
, probs: [ 0.82893736  0.13187944  0.0391832 ]
iter 963, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.24960874e-02   4.95637102e-03   9.62270481e-01   2.77060374e-04]
, probs: [ 0.82893736  0.13187944  0.0391832 ]
iter 964, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.46175483e-02   5.20047252e-03   9.59891274e-01   2.90705610e-04]
, probs: [ 0.82893736  0.13187944  0.0391832 ]
iter 965, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.46175483e-02   5.20047252e-03   9.59891274e-01   2.90705610e-04]
, probs: [ 0.8280361   0.13242225  0.03954165]
iter 966, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.68621930e-02   5.45466937e-03   9.57378222e-01   3.04915175e-04]
, probs: [ 0.8280361   0.13242225  0.03954165]
iter 967, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.62842659e-02   5.34971112e-03   9.58069376e-01   2.96647254e-04]
, probs: [ 0.82708449  0.13299581  0.0399197 ]
iter 968, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.86247197e-02   5.60968830e-03   9.55454529e-01   3.11063270e-04]
, probs: [ 0.82735018  0.1328402   0.03980962]
iter 969, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.80198574e-02   5.50183067e-03   9.56175681e-01   3.02631095e-04]
, probs: [ 0.82636048  0.13343725  0.04020226]
iter 970, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.80198574e-02   5.50183067e-03   9.56175681e-01   3.02631095e-04]
, probs: [ 0.82663752  0.13327478  0.04008769]
iter 971, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.80198574e-02   5.50183067e-03   9.56175681e-01   3.02631095e-04]
, probs: [ 0.82663752  0.13327478  0.04008769]
iter 972, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.04589925e-02   5.76759188e-03   9.53456166e-01   3.17249430e-04]
, probs: [ 0.82663752  0.13327478  0.04008769]
iter 973, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.30345934e-02   6.04380051e-03   9.50589164e-01   3.32442431e-04]
, probs: [ 0.82560868  0.13389601  0.04049531]
iter 974, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.30345934e-02   6.04380051e-03   9.50589164e-01   3.32442431e-04]
, probs: [ 0.82452442  0.13455115  0.04092443]
iter 975, selected_arm: 2, reward_of_selected_arm: 0, weights: [
4.30345934e-02   6.04380051e-03   9.50589164e-01   3.32442431e-04]
, probs: [ 0.82452442  0.13455115  0.04092443]
iter 976, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.57519315e-02   6.33062218e-03   9.47569227e-01   3.48219208e-04]
, probs: [ 0.82452442  0.13455115  0.04092443]
iter 977, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.50388715e-02   6.20929232e-03   9.48413045e-01   3.38791177e-04]
, probs: [ 0.82338271  0.13524148  0.04137581]
iter 978, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.43365583e-02   6.09024621e-03   9.49243578e-01   3.29617206e-04]
, probs: [ 0.82370637  0.13505108  0.04124255]
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iter 979, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.36448419e-02   5.97344235e-03   9.50061025e-01   3.20690501e-04]
, probs: [ 0.82402487  0.13486366  0.04111146]
iter 980, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.29635740e-02   5.85883994e-03   9.50865582e-01   3.12004448e-04]
, probs: [ 0.8243383   0.13467917  0.04098253]
iter 981, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.29635740e-02   5.85883994e-03   9.50865582e-01   3.12004448e-04]
, probs: [ 0.82464673  0.13449756  0.0408557 ]
iter 982, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.22926079e-02   5.74639888e-03   9.51657441e-01   3.03552607e-04]
, probs: [ 0.82464673  0.13449756  0.0408557 ]
iter 983, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.16317988e-02   5.63607976e-03   9.52436793e-01   2.95328709e-04]
, probs: [ 0.82495024  0.13431879  0.04073096]
iter 984, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.16317988e-02   5.63607976e-03   9.52436793e-01   2.95328709e-04]
, probs: [ 0.82524891  0.13414283  0.04060827]
iter 985, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.09810032e-02   5.52784381e-03   9.53203826e-01   2.87326650e-04]
, probs: [ 0.82524891  0.13414283  0.04060827]
iter 986, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.03400796e-02   5.42165296e-03   9.53958727e-01   2.79540487e-04]
, probs: [ 0.8255428   0.13396962  0.04048758]
iter 987, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.97088881e-02   5.31746975e-03   9.54701678e-01   2.71964436e-04]
, probs: [ 0.82583199  0.13379913  0.04036888]
iter 988, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.90872903e-02   5.21525740e-03   9.55432859e-01   2.64592865e-04]
, probs: [ 0.82611655  0.13363131  0.04025213]
iter 989, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.84751497e-02   5.11497974e-03   9.56152450e-01   2.57420292e-04]
, probs: [ 0.82639656  0.13346613  0.0401373 ]
iter 990, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.78723312e-02   5.01660123e-03   9.56860626e-01   2.50441381e-04]
, probs: [ 0.82667209  0.13330355  0.04002436]
iter 991, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.78723312e-02   5.01660123e-03   9.56860626e-01   2.50441381e-04]
, probs: [ 0.82694319  0.13314353  0.03991328]
iter 992, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.72787015e-02   4.92008694e-03   9.57557561e-01   2.43650935e-04]
, probs: [ 0.82694319  0.13314353  0.03991328]
iter 993, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.72787015e-02   4.92008694e-03   9.57557561e-01   2.43650935e-04]
, probs: [ 0.82720995  0.13298602  0.03980402]
iter 994, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.72787015e-02   4.92008694e-03   9.57557561e-01   2.43650935e-04]
, probs: [ 0.82720995  0.13298602  0.03980402]
iter 995, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.66941289e-02   4.82540254e-03   9.58243425e-01   2.37043897e-04]
, probs: [ 0.82720995  0.13298602  0.03980402]
iter 996, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.61184831e-02   4.73251431e-03   9.58918387e-01   2.30615345e-04]
, probs: [ 0.82747243  0.132831    0.03969657]
iter 997, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.55516359e-02   4.64138911e-03   9.59582615e-01   2.24360486e-04]
, probs: [ 0.82773069  0.13267842  0.03959088]
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iter 998, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.49934600e-02   4.55199437e-03   9.60236271e-01   2.18274655e-04]
, probs: [ 0.82798481  0.13252825  0.03948694]
iter 999, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.44438304e-02   4.46429811e-03   9.60879518e-01   2.12353312e-04]
, probs: [ 0.82823484  0.13238045  0.03938471]
iter 1000, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.39026231e-02   4.37826888e-03   9.61512516e-01   2.06592036e-04]
, probs: [ 0.82848084  0.13223499  0.03928417]
iter 1001, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.39026231e-02   4.37826888e-03   9.61512516e-01   2.06592036e-04]
, probs: [ 0.82872289  0.13209182  0.03918529]
iter 1002, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.33697159e-02   4.29387581e-03   9.62135422e-01   2.00986524e-04]
, probs: [ 0.82872289  0.13209182  0.03918529]
iter 1003, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.28449882e-02   4.21108856e-03   9.62748391e-01   1.95532591e-04]
, probs: [ 0.82896104  0.13195092  0.03908804]
iter 1004, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.23283209e-02   4.12987731e-03   9.63351576e-01   1.90226157e-04]
, probs: [ 0.82919536  0.13181225  0.03899239]
iter 1005, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.18195963e-02   4.05021279e-03   9.63945128e-01   1.85063258e-04]
, probs: [ 0.8294259   0.13167578  0.03889833]
iter 1006, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.13186984e-02   3.97206625e-03   9.64529195e-01   1.80040030e-04]
, probs: [ 0.82965272  0.13154147  0.03880581]
iter 1007, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.33753813e-02   4.16897428e-03   9.62266679e-01   1.88965190e-04]
, probs: [ 0.82987588  0.13140929  0.03871483]
iter 1008, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.28505136e-02   4.08858994e-03   9.62877059e-01   1.83837340e-04]
, probs: [ 0.82902273  0.1319276   0.03904967]
iter 1009, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.28505136e-02   4.08858994e-03   9.62877059e-01   1.83837340e-04]
, probs: [ 0.82925581  0.13178939  0.0389548 ]
iter 1010, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.23337103e-02   4.00973606e-03   9.63477705e-01   1.78848177e-04]
, probs: [ 0.82925581  0.13178939  0.0389548 ]
iter 1011, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.18248536e-02   3.93238422e-03   9.64068768e-01   1.73993972e-04]
, probs: [ 0.82948514  0.13165337  0.03886149]
iter 1012, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.13238273e-02   3.85650647e-03   9.64650395e-01   1.69271093e-04]
, probs: [ 0.82971077  0.1315195   0.03876973]
iter 1013, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.08305167e-02   3.78207538e-03   9.65222732e-01   1.64676005e-04]
, probs: [ 0.82993277  0.13138775  0.03867948]
iter 1014, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.03448085e-02   3.70906398e-03   9.65785922e-01   1.60205268e-04]
, probs: [ 0.83015119  0.13125809  0.03859072]
iter 1015, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.03448085e-02   3.70906398e-03   9.65785922e-01   1.60205268e-04]
, probs: [ 0.83036609  0.13113049  0.03850342]
iter 1016, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.98665910e-02   3.63744581e-03   9.66340108e-01   1.55855534e-04]
, probs: [ 0.83036609  0.13113049  0.03850342]
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iter 1017, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.93957539e-02   3.56719485e-03   9.66885428e-01   1.51623545e-04]
, probs: [ 0.83057752  0.13100491  0.03841757]
iter 1018, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.89321884e-02   3.49828557e-03   9.67422020e-01   1.47506127e-04]
, probs: [ 0.83078554  0.13088133  0.03833313]
iter 1019, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.08477303e-02   3.67328441e-03   9.65324100e-01   1.54884999e-04]
, probs: [ 0.8309902   0.13075971  0.03825009]
iter 1020, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.03617139e-02   3.60236954e-03   9.65885237e-01   1.50679994e-04]
, probs: [ 0.83019997  0.13124077  0.03855926]
iter 1021, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.98831942e-02   3.53280804e-03   9.66437409e-01   1.46588804e-04]
, probs: [ 0.83041387  0.13111352  0.03847261]
iter 1022, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.94120610e-02   3.46457463e-03   9.66980756e-01   1.42608363e-04]
, probs: [ 0.83062432  0.13098829  0.03838739]
iter 1023, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.94120610e-02   3.46457463e-03   9.66980756e-01   1.42608363e-04]
, probs: [ 0.83083138  0.13086505  0.03830357]
iter 1024, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.89482052e-02   3.39764450e-03   9.67515415e-01   1.38735688e-04]
, probs: [ 0.83083138  0.13086505  0.03830357]
iter 1025, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.84915192e-02   3.33199329e-03   9.68041520e-01   1.34967875e-04]
, probs: [ 0.8310351   0.13074376  0.03822114]
iter 1026, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.80418970e-02   3.26759705e-03   9.68559204e-01   1.31302097e-04]
, probs: [ 0.83123554  0.1306244   0.03814006]
iter 1027, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.75992339e-02   3.20443228e-03   9.69068598e-01   1.27735605e-04]
, probs: [ 0.83143273  0.13050694  0.03806033]
iter 1028, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.71634267e-02   3.14247591e-03   9.69569832e-01   1.24265721e-04]
, probs: [ 0.83162675  0.13039134  0.03798191]
iter 1029, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.67343733e-02   3.08170527e-03   9.70063032e-01   1.20889839e-04]
, probs: [ 0.83181763  0.13027759  0.03790478]
iter 1030, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.63119733e-02   3.02209810e-03   9.70548323e-01   1.17605425e-04]
, probs: [ 0.83200542  0.13016564  0.03782893]
iter 1031, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.58961276e-02   2.96363255e-03   9.71025830e-01   1.14410010e-04]
, probs: [ 0.83219018  0.13005548  0.03775434]
iter 1032, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.58961276e-02   2.96363255e-03   9.71025830e-01   1.14410010e-04]
, probs: [ 0.83237195  0.12994707  0.03768098]
iter 1033, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.54867382e-02   2.90628715e-03   9.71495673e-01   1.11301194e-04]
, probs: [ 0.83237195  0.12994707  0.03768098]
iter 1034, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.71938392e-02   3.05355062e-03   9.69635669e-01   1.16940898e-04]
, probs: [ 0.83255078  0.1298404   0.03760883]
iter 1035, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.67642832e-02   2.99449759e-03   9.70127455e-01   1.13763965e-04]
, probs: [ 0.83185104  0.13026738  0.03788158]
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iter 1036, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.63413892e-02   2.93657524e-03   9.70611362e-01   1.10673112e-04]
, probs: [ 0.83203812  0.13015566  0.03780622]
iter 1037, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.59250579e-02   2.87976232e-03   9.71087514e-01   1.07666015e-04]
, probs: [ 0.83222218  0.13004572  0.0377321 ]
iter 1038, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.59250579e-02   2.87976232e-03   9.71087514e-01   1.07666015e-04]
, probs: [ 0.83240326  0.12993753  0.0376592 ]
iter 1039, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.55151913e-02   2.82403798e-03   9.71556030e-01   1.04740415e-04]
, probs: [ 0.83240326  0.12993753  0.0376592 ]
iter 1040, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.51116928e-02   2.76938172e-03   9.72017031e-01   1.01894111e-04]
, probs: [ 0.83258142  0.12983107  0.03758751]
iter 1041, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.47144671e-02   2.71577345e-03   9.72470634e-01   9.91249633e-05]
, probs: [ 0.8327567  0.1297263  0.037517 ]
iter 1042, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.43234201e-02   2.66319343e-03   9.72916956e-01   9.64308887e-05]
, probs: [ 0.83292915  0.1296232   0.03744765]
iter 1043, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.43234201e-02   2.66319343e-03   9.72916956e-01   9.64308887e-05]
, probs: [ 0.8330988   0.12952175  0.03737945]
iter 1044, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.39384592e-02   2.61162226e-03   9.73356109e-01   9.38098599e-05]
, probs: [ 0.8330988   0.12952175  0.03737945]
iter 1045, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.35594928e-02   2.56104093e-03   9.73788206e-01   9.12599038e-05]
, probs: [ 0.83326571  0.12942191  0.03731238]
iter 1046, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.31864310e-02   2.51143074e-03   9.74213359e-01   8.87791005e-05]
, probs: [ 0.83342992  0.12932367  0.03724641]
iter 1047, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.28191846e-02   2.46277337e-03   9.74631676e-01   8.63655816e-05]
, probs: [ 0.83359147  0.129227    0.03718154]
iter 1048, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.24576660e-02   2.41505079e-03   9.75043266e-01   8.40175290e-05]
, probs: [ 0.8337504   0.12913187  0.03711774]
iter 1049, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.21017889e-02   2.36824533e-03   9.75448233e-01   8.17331731e-05]
, probs: [ 0.83390675  0.12903826  0.03705499]
iter 1050, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.17514679e-02   2.32233965e-03   9.75846682e-01   7.95107922e-05]
, probs: [ 0.83406057  0.12894615  0.03699328]
iter 1051, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.14066190e-02   2.27731671e-03   9.76238716e-01   7.73487107e-05]
, probs: [ 0.8342119   0.12885551  0.03693259]
iter 1052, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.10671593e-02   2.23315979e-03   9.76624436e-01   7.52452981e-05]
, probs: [ 0.83436077  0.12876632  0.03687291]
iter 1053, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.07330072e-02   2.18985247e-03   9.77003941e-01   7.31989678e-05]
, probs: [ 0.83450723  0.12867856  0.03681421]
iter 1054, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.07330072e-02   2.18985247e-03   9.77003941e-01   7.31989678e-05]
, probs: [ 0.8346513   0.12859221  0.03675649]
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iter 1055, selected_arm: 1, reward_of_selected_arm: 0, weights: [
2.07330072e-02   2.18985247e-03   9.77003941e-01   7.31989678e-05]
, probs: [ 0.8346513   0.12859221  0.03675649]
iter 1056, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.07330072e-02   2.18985247e-03   9.77003941e-01   7.31989678e-05]
, probs: [ 0.8346513   0.12859221  0.03675649]
iter 1057, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.04040821e-02   2.14737864e-03   9.77377331e-01   7.12081756e-05]
, probs: [ 0.8346513   0.12859221  0.03675649]
iter 1058, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.17940192e-02   2.25823861e-03   9.75872858e-01   7.48843490e-05]
, probs: [ 0.83479305  0.12850723  0.03669972]
iter 1059, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.17940192e-02   2.25823861e-03   9.75872858e-01   7.48843490e-05]
, probs: [ 0.83422796  0.1288531   0.03691895]
iter 1060, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.14484872e-02   2.21445766e-03   9.76264207e-01   7.28480585e-05]
, probs: [ 0.83422796  0.1288531   0.03691895]
iter 1061, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.11083554e-02   2.17151887e-03   9.76649259e-01   7.08670242e-05]
, probs: [ 0.83437644  0.12876399  0.03685956]
iter 1062, selected_arm: 2, reward_of_selected_arm: 0, weights: [
2.11083554e-02   2.17151887e-03   9.76649259e-01   7.08670242e-05]
, probs: [ 0.83452252  0.12867632  0.03680116]
iter 1063, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.07735420e-02   2.12940628e-03   9.77028112e-01   6.89397516e-05]
, probs: [ 0.83452252  0.12867632  0.03680116]
iter 1064, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.07735420e-02   2.12940628e-03   9.77028112e-01   6.89397516e-05]
, probs: [ 0.83466623  0.12859004  0.03674372]
iter 1065, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.04439663e-02   2.08810422e-03   9.77400865e-01   6.70647865e-05]
, probs: [ 0.83466623  0.12859004  0.03674372]
iter 1066, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.01195487e-02   2.04759731e-03   9.77767613e-01   6.52407140e-05]
, probs: [ 0.83480761  0.12850515  0.03668724]
iter 1067, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.98002107e-02   2.00787045e-03   9.78128453e-01   6.34661569e-05]
, probs: [ 0.8349467   0.12842162  0.03663168]
iter 1068, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.94858750e-02   1.96890883e-03   9.78483476e-01   6.17397754e-05]
, probs: [ 0.83508353  0.12833942  0.03657705]
iter 1069, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.08174636e-02   2.07091052e-03   9.77046688e-01   6.49382789e-05]
, probs: [ 0.83521814  0.12825854  0.03652331]
iter 1070, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.04871847e-02   2.03074253e-03   9.77418901e-01   6.31721339e-05]
, probs: [ 0.83467887  0.12858907  0.03673206]
iter 1071, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.04871847e-02   2.03074253e-03   9.77418901e-01   6.31721339e-05]
, probs: [ 0.83481993  0.12850424  0.03667583]
iter 1072, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.01620751e-02   1.99134787e-03   9.77785123e-01   6.14539282e-05]
, probs: [ 0.83481993  0.12850424  0.03667583]
iter 1073, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.98420563e-02   1.95271187e-03   9.78145449e-01   5.97823645e-05]
, probs: [ 0.83495871  0.12842076  0.03662053]
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iter 1074, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.98420563e-02   1.95271187e-03   9.78145449e-01   5.97823645e-05]
, probs: [ 0.83509523  0.12833862  0.03656615]
iter 1075, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.98420563e-02   1.95271187e-03   9.78145449e-01   5.97823645e-05]
, probs: [ 0.83509523  0.12833862  0.03656615]
iter 1076, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.98420563e-02   1.95271187e-03   9.78145449e-01   5.97823645e-05]
, probs: [ 0.83509523  0.12833862  0.03656615]
iter 1077, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.95270507e-02   1.91482011e-03   9.78499973e-01   5.81561808e-05]
, probs: [ 0.83509523  0.12833862  0.03656615]
iter 1078, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.95270507e-02   1.91482011e-03   9.78499973e-01   5.81561808e-05]
, probs: [ 0.83522954  0.1282578   0.03651266]
iter 1079, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.95270507e-02   1.91482011e-03   9.78499973e-01   5.81561808e-05]
, probs: [ 0.83522954  0.1282578   0.03651266]
iter 1080, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.95270507e-02   1.91482011e-03   9.78499973e-01   5.81561808e-05]
, probs: [ 0.83522954  0.1282578   0.03651266]
iter 1081, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.92169820e-02   1.87765846e-03   9.78848785e-01   5.65741487e-05]
, probs: [ 0.83522954  0.1282578   0.03651266]
iter 1082, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.05315359e-02   1.97504248e-03   9.77433913e-01   5.95083447e-05]
, probs: [ 0.83536168  0.12817827  0.03646005]
iter 1083, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.02057170e-02   1.93672792e-03   9.77799665e-01   5.78897828e-05]
, probs: [ 0.83483094  0.12850393  0.03666513]
iter 1084, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.98850003e-02   1.89915124e-03   9.78159533e-01   5.63151584e-05]
, probs: [ 0.83496943  0.1284205   0.03661007]
iter 1085, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.95693079e-02   1.86229842e-03   9.78513610e-01   5.47832825e-05]
, probs: [ 0.83510567  0.12833841  0.03655592]
iter 1086, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.95693079e-02   1.86229842e-03   9.78513610e-01   5.47832825e-05]
, probs: [ 0.83523971  0.12825763  0.03650266]
iter 1087, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.95693079e-02   1.86229842e-03   9.78513610e-01   5.47832825e-05]
, probs: [ 0.83523971  0.12825763  0.03650266]
iter 1088, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.95693079e-02   1.86229842e-03   9.78513610e-01   5.47832825e-05]
, probs: [ 0.83523971  0.12825763  0.03650266]
iter 1089, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.92585633e-02   1.82615570e-03   9.78861988e-01   5.32929981e-05]
, probs: [ 0.83523971  0.12825763  0.03650266]
iter 1090, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.89526911e-02   1.79070958e-03   9.79204756e-01   5.18431794e-05]
, probs: [ 0.83537158  0.12817814  0.03645028]
iter 1091, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.86516169e-02   1.75594681e-03   9.79542004e-01   5.04327309e-05]
, probs: [ 0.83550131  0.12809992  0.03639877]
iter 1092, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.86516169e-02   1.75594681e-03   9.79542004e-01   5.04327309e-05]
, probs: [ 0.83562894  0.12802296  0.0363481 ]
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iter 1093, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.83552673e-02   1.72185437e-03   9.79873818e-01   4.90605865e-05]
, probs: [ 0.83562894  0.12802296  0.0363481 ]
iter 1094, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.83552673e-02   1.72185437e-03   9.79873818e-01   4.90605865e-05]
, probs: [ 0.8357545   0.12794723  0.03629827]
iter 1095, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.80635701e-02   1.68841951e-03   9.80200285e-01   4.77257091e-05]
, probs: [ 0.8357545   0.12794723  0.03629827]
iter 1096, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.77764540e-02   1.65562969e-03   9.80521489e-01   4.64270892e-05]
, probs: [ 0.83587802  0.12787271  0.03624927]
iter 1097, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.74938489e-02   1.62347262e-03   9.80837515e-01   4.51637447e-05]
, probs: [ 0.83599954  0.12779939  0.03620107]
iter 1098, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.72156856e-02   1.59193624e-03   9.81148443e-01   4.39347202e-05]
, probs: [ 0.83611909  0.12772725  0.03615366]
iter 1099, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.84011901e-02   1.67510924e-03   9.79877471e-01   4.62301529e-05]
, probs: [ 0.8362367   0.12765626  0.03610704]
iter 1100, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.81087605e-02   1.64258188e-03   9.80203685e-01   4.49722852e-05]
, probs: [ 0.83576037  0.12794905  0.03629058]
iter 1101, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.81087605e-02   1.64258188e-03   9.80203685e-01   4.49722852e-05]
, probs: [ 0.83588371  0.12787454  0.03624175]
iter 1102, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.81087605e-02   1.64258188e-03   9.80203685e-01   4.49722852e-05]
, probs: [ 0.83588371  0.12787454  0.03624175]
iter 1103, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.78209236e-02   1.61068207e-03   9.80524646e-01   4.37485835e-05]
, probs: [ 0.83588371  0.12787454  0.03624175]
iter 1104, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.75376092e-02   1.57939784e-03   9.80840435e-01   4.25581224e-05]
, probs: [ 0.83600504  0.12780123  0.03619373]
iter 1105, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.72587478e-02   1.54871746e-03   9.81151135e-01   4.14000013e-05]
, probs: [ 0.83612441  0.12772909  0.0361465 ]
iter 1106, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.72587478e-02   1.54871746e-03   9.81151135e-01   4.14000013e-05]
, probs: [ 0.83624185  0.1276581   0.03610005]
iter 1107, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.72587478e-02   1.54871746e-03   9.81151135e-01   4.14000013e-05]
, probs: [ 0.83624185  0.1276581   0.03610005]
iter 1108, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.69842712e-02   1.51862940e-03   9.81456826e-01   4.02733442e-05]
, probs: [ 0.83624185  0.1276581   0.03610005]
iter 1109, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.67141119e-02   1.48912237e-03   9.81757588e-01   3.91772983e-05]
, probs: [ 0.83635738  0.12758826  0.03605436]
iter 1110, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.64482037e-02   1.46018526e-03   9.82053500e-01   3.81110341e-05]
, probs: [ 0.83647104  0.12751953  0.03600943]
iter 1111, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.61864810e-02   1.43180719e-03   9.82344638e-01   3.70737445e-05]
, probs: [ 0.83658285  0.12745191  0.03596524]
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iter 1112, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.73049686e-02   1.50689961e-03   9.81149114e-01   3.90181103e-05]
, probs: [ 0.83669285  0.12738537  0.03592178]
iter 1113, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.73049686e-02   1.50689961e-03   9.81149114e-01   3.90181103e-05]
, probs: [ 0.83624511  0.12766096  0.03609393]
iter 1114, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.70297555e-02   1.47762388e-03   9.81454664e-01   3.79562725e-05]
, probs: [ 0.83624511  0.12766096  0.03609393]
iter 1115, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.67588715e-02   1.44891349e-03   9.81755292e-01   3.69232849e-05]
, probs: [ 0.83636051  0.1275911   0.03604839]
iter 1116, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.64922499e-02   1.42075765e-03   9.82051074e-01   3.59183657e-05]
, probs: [ 0.83647404  0.12752236  0.0360036 ]
iter 1117, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.62298253e-02   1.39314577e-03   9.82342088e-01   3.49407542e-05]
, probs: [ 0.83658572  0.12745472  0.03595955]
iter 1118, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.59715329e-02   1.36606744e-03   9.82628410e-01   3.39897101e-05]
, probs: [ 0.8366956   0.12738817  0.03591623]
iter 1119, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.59715329e-02   1.36606744e-03   9.82628410e-01   3.39897101e-05]
, probs: [ 0.83680369  0.12732268  0.03587362]
iter 1120, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.59715329e-02   1.36606744e-03   9.82628410e-01   3.39897101e-05]
, probs: [ 0.83680369  0.12732268  0.03587362]
iter 1121, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.57173092e-02   1.33951246e-03   9.82910114e-01   3.30645132e-05]
, probs: [ 0.83680369  0.12732268  0.03587362]
iter 1122, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54670914e-02   1.31347084e-03   9.83187273e-01   3.21644627e-05]
, probs: [ 0.83691003  0.12725825  0.03583172]
iter 1123, selected_arm: 2, reward_of_selected_arm: 1, weights: [
1.77371063e-02   1.73207345e-03   9.80479721e-01   5.10996397e-05]
, probs: [ 0.83701465  0.12719485  0.0357905 ]
iter 1124, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.74551366e-02   1.69843241e-03   9.80796722e-01   4.97091610e-05]
, probs: [ 0.83597672  0.12780479  0.0362185 ]
iter 1125, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.71775983e-02   1.66544067e-03   9.81108605e-01   4.83564553e-05]
, probs: [ 0.83609678  0.1277325   0.03617072]
iter 1126, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.69044234e-02   1.63308584e-03   9.81415450e-01   4.70404993e-05]
, probs: [ 0.83621489  0.12766137  0.03612374]
iter 1127, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.69044234e-02   1.63308584e-03   9.81415450e-01   4.70404993e-05]
, probs: [ 0.83633108  0.12759139  0.03607753]
iter 1128, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.66355450e-02   1.60135577e-03   9.81717339e-01   4.57602971e-05]
, probs: [ 0.83633108  0.12759139  0.03607753]
iter 1129, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.63708969e-02   1.57023852e-03   9.82014350e-01   4.45148798e-05]
, probs: [ 0.83644538  0.12752253  0.03603209]
iter 1130, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.63708969e-02   1.57023852e-03   9.82014350e-01   4.45148798e-05]
, probs: [ 0.83655782  0.12745478  0.0359874 ]
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iter 1131, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.61104143e-02   1.53972240e-03   9.82306560e-01   4.33033047e-05]
, probs: [ 0.83655782  0.12745478  0.0359874 ]
iter 1132, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.61104143e-02   1.53972240e-03   9.82306560e-01   4.33033047e-05]
, probs: [ 0.83666843  0.12738811  0.03594345]
iter 1133, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.61104143e-02   1.53972240e-03   9.82306560e-01   4.33033047e-05]
, probs: [ 0.83666843  0.12738811  0.03594345]
iter 1134, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.58540329e-02   1.50979592e-03   9.82594047e-01   4.21246546e-05]
, probs: [ 0.83666843  0.12738811  0.03594345]
iter 1135, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.56016895e-02   1.48044780e-03   9.82876885e-01   4.09780368e-05]
, probs: [ 0.83677725  0.12732252  0.03590023]
iter 1136, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.53533220e-02   1.45166698e-03   9.83155148e-01   3.98625829e-05]
, probs: [ 0.83688429  0.12725799  0.03585772]
iter 1137, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51088690e-02   1.42344263e-03   9.83428911e-01   3.87774480e-05]
, probs: [ 0.83698959  0.12719449  0.03581592]
iter 1138, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.48682701e-02   1.39576407e-03   9.83698244e-01   3.77218098e-05]
, probs: [ 0.83709318  0.12713201  0.03577481]
iter 1139, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.46314658e-02   1.36862087e-03   9.83963218e-01   3.66948685e-05]
, probs: [ 0.83719508  0.12707054  0.03573438]
iter 1140, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.43983973e-02   1.34200278e-03   9.84223904e-01   3.56958457e-05]
, probs: [ 0.83729533  0.12701005  0.03569462]
iter 1141, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.41690069e-02   1.31589972e-03   9.84480369e-01   3.47239841e-05]
, probs: [ 0.83739394  0.12695054  0.03565552]
iter 1142, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.41690069e-02   1.31589972e-03   9.84480369e-01   3.47239841e-05]
, probs: [ 0.83749094  0.12689199  0.03561707]
iter 1143, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.41690069e-02   1.31589972e-03   9.84480369e-01   3.47239841e-05]
, probs: [ 0.83749094  0.12689199  0.03561707]
iter 1144, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.51542754e-02   1.38539448e-03   9.83423772e-01   3.65578129e-05]
, probs: [ 0.83749094  0.12689199  0.03561707]
iter 1145, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.49129527e-02   1.35845572e-03   9.83693029e-01   3.55625992e-05]
, probs: [ 0.83709495  0.12713539  0.03576967]
iter 1146, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.46754361e-02   1.33203800e-03   9.83957931e-01   3.45944398e-05]
, probs: [ 0.83719674  0.12707389  0.03572937]
iter 1147, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.56943380e-02   1.40226482e-03   9.82866979e-01   3.64183047e-05]
, probs: [ 0.83729689  0.12701338  0.03568973]
iter 1148, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54444942e-02   1.37500383e-03   9.83145075e-01   3.54269689e-05]
, probs: [ 0.83688816  0.12726477  0.03584707]
iter 1149, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.54444942e-02   1.37500383e-03   9.83145075e-01   3.54269689e-05]
, probs: [ 0.83699324  0.12720122  0.03580553]
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iter 1150, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51985883e-02   1.34826991e-03   9.83418679e-01   3.44625785e-05]
, probs: [ 0.83699324  0.12720122  0.03580553]
iter 1151, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.49565594e-02   1.32205299e-03   9.83687863e-01   3.35244029e-05]
, probs: [ 0.83709662  0.12713869  0.03576468]
iter 1152, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.47183478e-02   1.29634316e-03   9.83952697e-01   3.26117311e-05]
, probs: [ 0.83719832  0.12707717  0.03572451]
iter 1153, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.57401861e-02   1.36468493e-03   9.82860798e-01   3.43309854e-05]
, probs: [ 0.83729836  0.12701664  0.035685  ]
iter 1154, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.57401861e-02   1.36468493e-03   9.82860798e-01   3.43309854e-05]
, probs: [ 0.83688947  0.12726836  0.03584217]
iter 1155, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54896120e-02   1.33815449e-03   9.83138837e-01   3.33964677e-05]
, probs: [ 0.83688947  0.12726836  0.03584217]
iter 1156, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.52429872e-02   1.31213699e-03   9.83412388e-01   3.24873511e-05]
, probs: [ 0.83699446  0.12720478  0.03580076]
iter 1157, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.52429872e-02   1.31213699e-03   9.83412388e-01   3.24873511e-05]
, probs: [ 0.83709774  0.12714222  0.03576003]
iter 1158, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.50002510e-02   1.28662264e-03   9.83681523e-01   3.16029468e-05]
, probs: [ 0.83709774  0.12714222  0.03576003]
iter 1159, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.47613431e-02   1.26160180e-03   9.83946313e-01   3.07425846e-05]
, probs: [ 0.83719935  0.12708067  0.03571998]
iter 1160, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.45262044e-02   1.23706500e-03   9.84206825e-01   2.99056123e-05]
, probs: [ 0.83729931  0.12702011  0.03568058]
iter 1161, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.42947766e-02   1.21300299e-03   9.84463129e-01   2.90913956e-05]
, probs: [ 0.83739764  0.12696052  0.03564184]
iter 1162, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.52886642e-02   1.27705461e-03   9.83403654e-01   3.06275428e-05]
, probs: [ 0.83749438  0.12690189  0.03560373]
iter 1163, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.50452005e-02   1.25222243e-03   9.83672783e-01   2.97937681e-05]
, probs: [ 0.83709785  0.12714626  0.03575589]
iter 1164, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.48055767e-02   1.22787056e-03   9.83937570e-01   2.89826592e-05]
, probs: [ 0.83719938  0.12708467  0.03571594]
iter 1165, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.45697335e-02   1.20398981e-03   9.84198083e-01   2.81936013e-05]
, probs: [ 0.83729927  0.12702407  0.03567665]
iter 1166, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.45697335e-02   1.20398981e-03   9.84198083e-01   2.81936013e-05]
, probs: [ 0.83739754  0.12696444  0.03563801]
iter 1167, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.43376123e-02   1.18057114e-03   9.84454391e-01   2.74259962e-05]
, probs: [ 0.83739754  0.12696444  0.03563801]
iter 1168, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.41091554e-02   1.15760570e-03   9.84706560e-01   2.66792620e-05]
, probs: [ 0.83749422  0.12690577  0.03560001]
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iter 1169, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.38843063e-02   1.13508480e-03   9.84954656e-01   2.59528324e-05]
, probs: [ 0.83758932  0.12684805  0.03556263]
iter 1170, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36630089e-02   1.11299992e-03   9.85198745e-01   2.52461565e-05]
, probs: [ 0.83768289  0.12679125  0.03552587]
iter 1171, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34452082e-02   1.09134268e-03   9.85438890e-01   2.45586982e-05]
, probs: [ 0.83777493  0.12673536  0.03548971]
iter 1172, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32308498e-02   1.07010488e-03   9.85675155e-01   2.38899359e-05]
, probs: [ 0.83786548  0.12668037  0.03545415]
iter 1173, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.30198804e-02   1.04927847e-03   9.85907602e-01   2.32393623e-05]
, probs: [ 0.83795455  0.12662627  0.03541918]
iter 1174, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.28122473e-02   1.02885555e-03   9.86136291e-01   2.26064836e-05]
, probs: [ 0.83804218  0.12657304  0.03538478]
iter 1175, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.28122473e-02   1.02885555e-03   9.86136291e-01   2.26064836e-05]
, probs: [ 0.83812839  0.12652066  0.03535095]
iter 1176, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.26078985e-02   1.00882836e-03   9.86361282e-01   2.19908195e-05]
, probs: [ 0.83812839  0.12652066  0.03535095]
iter 1177, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.24067831e-02   9.89189303e-04   9.86582636e-01   2.13919027e-05]
, probs: [ 0.83821319  0.12646913  0.03531768]
iter 1178, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.32747547e-02   1.04177991e-03   9.85660936e-01   2.25292109e-05]
, probs: [ 0.83829662  0.12641843  0.03528496]
iter 1179, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.30630860e-02   1.02150482e-03   9.85893493e-01   2.19156933e-05]
, probs: [ 0.83795195  0.1266312   0.03541684]
iter 1180, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.30630860e-02   1.02150482e-03   9.85893493e-01   2.19156933e-05]
, probs: [ 0.83803957  0.12657791  0.03538252]
iter 1181, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.28547647e-02   1.00162253e-03   9.86122294e-01   2.13188628e-05]
, probs: [ 0.83803957  0.12657791  0.03538252]
iter 1182, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.26497387e-02   9.82125496e-04   9.86347398e-01   2.07382664e-05]
, probs: [ 0.83812576  0.12652548  0.03534876]
iter 1183, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.24479567e-02   9.63006321e-04   9.86568863e-01   2.01734632e-05]
, probs: [ 0.83821056  0.12647389  0.03531555]
iter 1184, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.22493683e-02   9.44257736e-04   9.86786750e-01   1.96240245e-05]
, probs: [ 0.83829398  0.12642313  0.0352829 ]
iter 1185, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20539237e-02   9.25872617e-04   9.87001114e-01   1.90895332e-05]
, probs: [ 0.83837604  0.12637318  0.03525078]
iter 1186, selected_arm: 2, reward_of_selected_arm: 1, weights: [
1.38627632e-02   1.22723732e-03   9.84879424e-01   3.05759915e-05]
, probs: [ 0.83845677  0.12632404  0.03521919]
iter 1187, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36418214e-02   1.20336035e-03   9.85125075e-01   2.97434422e-05]
, probs: [ 0.83764645  0.12680363  0.03554992]
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iter 1188, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34243701e-02   1.17994569e-03   9.85366751e-01   2.89335329e-05]
, probs: [ 0.83773925  0.12674748  0.03551327]
iter 1189, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32103553e-02   1.15698448e-03   9.85604515e-01   2.81456494e-05]
, probs: [ 0.83783054  0.12669223  0.03547723]
iter 1190, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.41319520e-02   1.21830590e-03   9.84620105e-01   2.96373991e-05]
, probs: [ 0.83792034  0.12663788  0.03544178]
iter 1191, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39067525e-02   1.19460501e-03   9.84869812e-01   2.88304364e-05]
, probs: [ 0.83755173  0.12686484  0.03558343]
iter 1192, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36851097e-02   1.17136295e-03   9.85115482e-01   2.80454167e-05]
, probs: [ 0.83764601  0.12680773  0.03554626]
iter 1193, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.36851097e-02   1.17136295e-03   9.85115482e-01   2.80454167e-05]
, probs: [ 0.83773875  0.12675154  0.03550971]
iter 1194, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.46384394e-02   1.23334701e-03   9.84098684e-01   2.95294734e-05]
, probs: [ 0.83773875  0.12675154  0.03550971]
iter 1195, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.44052376e-02   1.20935829e-03   9.84356679e-01   2.87255099e-05]
, probs: [ 0.83735814  0.12698605  0.03565581]
iter 1196, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.54064836e-02   1.27319485e-03   9.83290080e-01   3.02417996e-05]
, probs: [ 0.83745549  0.12692701  0.03561749]
iter 1197, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.54064836e-02   1.27319485e-03   9.83290080e-01   3.02417996e-05]
, probs: [ 0.83705635  0.12717307  0.03577058]
iter 1198, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51611593e-02   1.24843878e-03   9.83560983e-01   2.94185394e-05]
, probs: [ 0.83705635  0.12717307  0.03577058]
iter 1199, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.49197037e-02   1.22416151e-03   9.83827517e-01   2.86176585e-05]
, probs: [ 0.83715853  0.12711106  0.03573041]
iter 1200, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.49197037e-02   1.22416151e-03   9.83827517e-01   2.86176585e-05]
, probs: [ 0.83725906  0.12705004  0.03569089]
iter 1201, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.46820570e-02   1.20035388e-03   9.84089751e-01   2.78385501e-05]
, probs: [ 0.83725906  0.12705004  0.03569089]
iter 1202, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.44481604e-02   1.17700689e-03   9.84347752e-01   2.70806234e-05]
, probs: [ 0.83735796  0.12699001  0.03565203]
iter 1203, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.42179558e-02   1.15411170e-03   9.84601589e-01   2.63433040e-05]
, probs: [ 0.83745525  0.12693094  0.03561381]
iter 1204, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39913861e-02   1.13165967e-03   9.84851328e-01   2.56260327e-05]
, probs: [ 0.83755096  0.12687282  0.03557622]
iter 1205, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37683948e-02   1.10964228e-03   9.85097035e-01   2.49282655e-05]
, probs: [ 0.83764512  0.12681563  0.03553925]
iter 1206, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.35489265e-02   1.08805120e-03   9.85338773e-01   2.42494733e-05]
, probs: [ 0.83773775  0.12675936  0.03550289]
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iter 1207, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.35489265e-02   1.08805120e-03   9.85338773e-01   2.42494733e-05]
, probs: [ 0.83782888  0.126704    0.03546712]
iter 1208, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.33329266e-02   1.06687825e-03   9.85576606e-01   2.35891410e-05]
, probs: [ 0.83782888  0.126704    0.03546712]
iter 1209, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.31203412e-02   1.04611541e-03   9.85810597e-01   2.29467677e-05]
, probs: [ 0.83791853  0.12664952  0.03543195]
iter 1210, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.29111173e-02   1.02575479e-03   9.86040806e-01   2.23218659e-05]
, probs: [ 0.83800672  0.12659592  0.03539736]
iter 1211, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.27052026e-02   1.00578868e-03   9.86267295e-01   2.17139613e-05]
, probs: [ 0.83809348  0.12654319  0.03536333]
iter 1212, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.25025456e-02   9.86209484e-04   9.86490122e-01   2.11225925e-05]
, probs: [ 0.83817883  0.1264913   0.03532987]
iter 1213, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.23030958e-02   9.67009775e-04   9.86709347e-01   2.05473106e-05]
, probs: [ 0.83826279  0.12644025  0.03529696]
iter 1214, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.21068030e-02   9.48182255e-04   9.86925027e-01   1.99876788e-05]
, probs: [ 0.83834539  0.12639002  0.03526459]
iter 1215, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.19136182e-02   9.29719765e-04   9.87137219e-01   1.94432720e-05]
, probs: [ 0.83842665  0.1263406   0.03523276]
iter 1216, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.19136182e-02   9.29719765e-04   9.87137219e-01   1.94432720e-05]
, probs: [ 0.83850659  0.12629197  0.03520145]
iter 1217, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.17234930e-02   9.11615282e-04   9.87345978e-01   1.89136769e-05]
, probs: [ 0.83850659  0.12629197  0.03520145]
iter 1218, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.17234930e-02   9.11615282e-04   9.87345978e-01   1.89136769e-05]
, probs: [ 0.83858522  0.12624413  0.03517065]
iter 1219, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.15363795e-02   8.93861919e-04   9.87551360e-01   1.83984911e-05]
, probs: [ 0.83858522  0.12624413  0.03517065]
iter 1220, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.15363795e-02   8.93861919e-04   9.87551360e-01   1.83984911e-05]
, probs: [ 0.83866258  0.12619705  0.03514037]
iter 1221, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.23457506e-02   9.41533123e-04   9.86693337e-01   1.93797145e-05]
, probs: [ 0.83866258  0.12619705  0.03514037]
iter 1222, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.21487784e-02   9.23201696e-04   9.86909168e-01   1.88518843e-05]
, probs: [ 0.83834185  0.1263952   0.03526294]
iter 1223, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.21487784e-02   9.23201696e-04   9.86909168e-01   1.88518843e-05]
, probs: [ 0.83842312  0.12634572  0.03523117]
iter 1224, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.19549249e-02   9.05225680e-04   9.87121511e-01   1.83384140e-05]
, probs: [ 0.83842312  0.12634572  0.03523117]
iter 1225, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.19549249e-02   9.05225680e-04   9.87121511e-01   1.83384140e-05]
, probs: [ 0.83850306  0.12629703  0.03519991]
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iter 1226, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.19549249e-02   9.05225680e-04   9.87121511e-01   1.83384140e-05]
, probs: [ 0.83850306  0.12629703  0.03519991]
iter 1227, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.19549249e-02   9.05225680e-04   9.87121511e-01   1.83384140e-05]
, probs: [ 0.83850306  0.12629703  0.03519991]
iter 1228, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.17641414e-02   8.87598237e-04   9.87330421e-01   1.78389137e-05]
, probs: [ 0.83850306  0.12629703  0.03519991]
iter 1229, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.15763802e-02   8.70312660e-04   9.87535954e-01   1.73530038e-05]
, probs: [ 0.83858171  0.12624912  0.03516917]
iter 1230, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.13915940e-02   8.53362367e-04   9.87738163e-01   1.68803154e-05]
, probs: [ 0.83865908  0.12620199  0.03513894]
iter 1231, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.12097365e-02   8.36740905e-04   9.87937102e-01   1.64204891e-05]
, probs: [ 0.83873519  0.12615561  0.0351092 ]
iter 1232, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.12097365e-02   8.36740905e-04   9.87937102e-01   1.64204891e-05]
, probs: [ 0.83881006  0.12610998  0.03507996]
iter 1233, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.10307618e-02   8.20441938e-04   9.88132823e-01   1.59731758e-05]
, probs: [ 0.83881006  0.12610998  0.03507996]
iter 1234, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.08546250e-02   8.04459256e-04   9.88325378e-01   1.55380353e-05]
, probs: [ 0.83888372  0.12606509  0.03505119]
iter 1235, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.16178875e-02   8.47469306e-04   9.87518274e-01   1.63687693e-05]
, probs: [ 0.83895618  0.12602092  0.0350229 ]
iter 1236, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.16178875e-02   8.47469306e-04   9.87518274e-01   1.63687693e-05]
, probs: [ 0.83865466  0.12620741  0.03513793]
iter 1237, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.16178875e-02   8.47469306e-04   9.87518274e-01   1.63687693e-05]
, probs: [ 0.83865466  0.12620741  0.03513793]
iter 1238, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.14324401e-02   8.30963988e-04   9.87720673e-01   1.59228918e-05]
, probs: [ 0.83865466  0.12620741  0.03513793]
iter 1239, selected_arm: 2, reward_of_selected_arm: 1, weights: [
1.31555061e-02   1.10255846e-03   9.85716390e-01   2.55451872e-05]
, probs: [ 0.8387308   0.12616096  0.03510824]
iter 1240, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.31555061e-02   1.10255846e-03   9.85716390e-01   2.55451872e-05]
, probs: [ 0.83796671  0.12661478  0.03541851]
iter 1241, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.29457342e-02   1.08110017e-03   9.85948316e-01   2.48495343e-05]
, probs: [ 0.83796671  0.12661478  0.03541851]
iter 1242, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.27392797e-02   1.06005761e-03   9.86176490e-01   2.41728025e-05]
, probs: [ 0.83805421  0.12656171  0.03538409]
iter 1243, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.27392797e-02   1.06005761e-03   9.86176490e-01   2.41728025e-05]
, probs: [ 0.83814028  0.12650949  0.03535023]
iter 1244, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.36294741e-02   1.11634362e-03   9.85228726e-01   2.54563087e-05]
, probs: [ 0.83814028  0.12650949  0.03535023]
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iter 1245, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.36294741e-02   1.11634362e-03   9.85228726e-01   2.54563087e-05]
, probs: [ 0.83778567  0.12672815  0.03548618]
iter 1246, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34122044e-02   1.09462108e-03   9.85468411e-01   2.47631249e-05]
, probs: [ 0.83778567  0.12672815  0.03548618]
iter 1247, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.34122044e-02   1.09462108e-03   9.85468411e-01   2.47631249e-05]
, probs: [ 0.83787605  0.12667328  0.03545067]
iter 1248, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.31983688e-02   1.07331925e-03   9.85704223e-01   2.40887931e-05]
, probs: [ 0.83787605  0.12667328  0.03545067]
iter 1249, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.41193479e-02   1.13022120e-03   9.84725065e-01   2.53658591e-05]
, probs: [ 0.83796497  0.12661929  0.03541575]
iter 1250, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.38943331e-02   1.10823285e-03   9.84972759e-01   2.46751886e-05]
, probs: [ 0.83759871  0.12684527  0.03555602]
iter 1251, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36728728e-02   1.08667021e-03   9.85216454e-01   2.40032996e-05]
, probs: [ 0.83769207  0.12678853  0.0355194 ]
iter 1252, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34549118e-02   1.06552511e-03   9.85456213e-01   2.33496823e-05]
, probs: [ 0.83778392  0.12673271  0.03548337]
iter 1253, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32403959e-02   1.04478955e-03   9.85692101e-01   2.27138408e-05]
, probs: [ 0.83787427  0.12667778  0.03544795]
iter 1254, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.32403959e-02   1.04478955e-03   9.85692101e-01   2.27138408e-05]
, probs: [ 0.83796316  0.12662374  0.0354131 ]
iter 1255, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.30292715e-02   1.02445565e-03   9.85924178e-01   2.20952927e-05]
, probs: [ 0.83796316  0.12662374  0.0354131 ]
iter 1256, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.39390180e-02   1.07880442e-03   9.84958910e-01   2.32674782e-05]
, probs: [ 0.83805061  0.12657056  0.03537883]
iter 1257, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.39390180e-02   1.07880442e-03   9.84958910e-01   2.32674782e-05]
, probs: [ 0.83768972  0.12679344  0.03551685]
iter 1258, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37168463e-02   1.05781441e-03   9.85202705e-01   2.26339208e-05]
, probs: [ 0.83768972  0.12679344  0.03551685]
iter 1259, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34981852e-02   1.03723086e-03   9.85442566e-01   2.20175927e-05]
, probs: [ 0.83778154  0.12673756  0.0354809 ]
iter 1260, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.44393226e-02   1.09217051e-03   9.84445323e-01   2.31838122e-05]
, probs: [ 0.83787188  0.12668257  0.03544555]
iter 1261, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.44393226e-02   1.09217051e-03   9.84445323e-01   2.31838122e-05]
, probs: [ 0.83749914  0.1269129   0.03558796]
iter 1262, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.44393226e-02   1.09217051e-03   9.84445323e-01   2.31838122e-05]
, probs: [ 0.83749914  0.1269129   0.03558796]
iter 1263, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.42092434e-02   1.07092461e-03   9.84697279e-01   2.25525798e-05]
, probs: [ 0.83749914  0.1269129   0.03558796]
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iter 1264, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39827977e-02   1.05008997e-03   9.84945174e-01   2.19385115e-05]
, probs: [ 0.837594    0.12685512  0.03555088]
iter 1265, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37599290e-02   1.02965871e-03   9.85189071e-01   2.13411415e-05]
, probs: [ 0.83768732  0.12679827  0.03551441]
iter 1266, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.37599290e-02   1.02965871e-03   9.85189071e-01   2.13411415e-05]
, probs: [ 0.83777913  0.12674234  0.03547854]
iter 1267, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.35405819e-02   1.00962308e-03   9.85429035e-01   2.07600167e-05]
, probs: [ 0.83777913  0.12674234  0.03547854]
iter 1268, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.33247017e-02   9.89975489e-04   9.85665128e-01   2.01946963e-05]
, probs: [ 0.83786945  0.1266873   0.03544325]
iter 1269, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.33247017e-02   9.89975489e-04   9.85665128e-01   2.01946963e-05]
, probs: [ 0.83795831  0.12663314  0.03540855]
iter 1270, selected_arm: 2, reward_of_selected_arm: 1, weights: [
1.53095237e-02   1.30995038e-03   9.83348268e-01   3.22578946e-05]
, probs: [ 0.83795831  0.12663314  0.03540855]
iter 1271, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.50657366e-02   1.28447916e-03   9.83618404e-01   3.13797448e-05]
, probs: [ 0.83707432  0.12715736  0.03576832]
iter 1272, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.50657366e-02   1.28447916e-03   9.83618404e-01   3.13797448e-05]
, probs: [ 0.83717629  0.12709557  0.03572814]
iter 1273, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.48257942e-02   1.25950059e-03   9.83884180e-01   3.05254668e-05]
, probs: [ 0.83717629  0.12709557  0.03572814]
iter 1274, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.45896370e-02   1.23500523e-03   9.84145663e-01   2.96944130e-05]
, probs: [ 0.83727661  0.12703477  0.03568862]
iter 1275, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.43572066e-02   1.21098384e-03   9.84402924e-01   2.88859535e-05]
, probs: [ 0.8373753   0.12697495  0.03564975]
iter 1276, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.41284452e-02   1.18742731e-03   9.84656028e-01   2.80994753e-05]
, probs: [ 0.83747238  0.1269161   0.03561152]
iter 1277, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39032959e-02   1.16432675e-03   9.84905043e-01   2.73343821e-05]
, probs: [ 0.83756789  0.12685818  0.03557392]
iter 1278, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36817030e-02   1.14167341e-03   9.85150034e-01   2.65900937e-05]
, probs: [ 0.83766185  0.1268012   0.03553695]
iter 1279, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.46348732e-02   1.20209186e-03   9.84135038e-01   2.79972669e-05]
, probs: [ 0.83775428  0.12674514  0.03550058]
iter 1280, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.44017224e-02   1.17871066e-03   9.84392332e-01   2.72350142e-05]
, probs: [ 0.83737449  0.12697931  0.0356462 ]
iter 1281, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.44017224e-02   1.17871066e-03   9.84392332e-01   2.72350142e-05]
, probs: [ 0.83747152  0.12692041  0.03560807]
iter 1282, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.41722520e-02   1.15578195e-03   9.84645473e-01   2.64934865e-05]
, probs: [ 0.83747152  0.12692041  0.03560807]
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iter 1283, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.41722520e-02   1.15578195e-03   9.84645473e-01   2.64934865e-05]
, probs: [ 0.83756698  0.12686245  0.03557057]
iter 1284, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39464050e-02   1.13329705e-03   9.84894526e-01   2.57721215e-05]
, probs: [ 0.83756698  0.12686245  0.03557057]
iter 1285, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37241253e-02   1.11124744e-03   9.85139557e-01   2.50703722e-05]
, probs: [ 0.83766089  0.12680542  0.03553369]
iter 1286, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.35053575e-02   1.08962479e-03   9.85380630e-01   2.43877063e-05]
, probs: [ 0.83775328  0.12674932  0.03549741]
iter 1287, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.35053575e-02   1.08962479e-03   9.85380630e-01   2.43877063e-05]
, probs: [ 0.83784416  0.12669411  0.03546173]
iter 1288, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.35053575e-02   1.08962479e-03   9.85380630e-01   2.43877063e-05]
, probs: [ 0.83784416  0.12669411  0.03546173]
iter 1289, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32900472e-02   1.06842089e-03   9.85617808e-01   2.37236059e-05]
, probs: [ 0.83784416  0.12669411  0.03546173]
iter 1290, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.32900472e-02   1.06842089e-03   9.85617808e-01   2.37236059e-05]
, probs: [ 0.83793357  0.12663979  0.03542664]
iter 1291, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.30781406e-02   1.04762770e-03   9.85851154e-01   2.30775671e-05]
, probs: [ 0.83793357  0.12663979  0.03542664]
iter 1292, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.28695849e-02   1.02723734e-03   9.86080729e-01   2.24490996e-05]
, probs: [ 0.83802153  0.12658635  0.03539213]
iter 1293, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.28695849e-02   1.02723734e-03   9.86080729e-01   2.24490996e-05]
, probs: [ 0.83810806  0.12653376  0.03535818]
iter 1294, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.26643280e-02   1.00724207e-03   9.86306592e-01   2.18377265e-05]
, probs: [ 0.83810806  0.12653376  0.03535818]
iter 1295, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.24623187e-02   9.87634293e-04   9.86528804e-01   2.12429838e-05]
, probs: [ 0.83819318  0.12648202  0.0353248 ]
iter 1296, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.22635062e-02   9.68406567e-04   9.86747423e-01   2.06644198e-05]
, probs: [ 0.83827692  0.12643111  0.03529197]
iter 1297, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20678410e-02   9.49551582e-04   9.86962506e-01   2.01015952e-05]
, probs: [ 0.8383593   0.12638103  0.03525968]
iter 1298, selected_arm: 2, reward_of_selected_arm: 1, weights: [
1.38781433e-02   1.25852261e-03   9.84831141e-01   3.21929330e-05]
, probs: [ 0.83844034  0.12633175  0.03522792]
iter 1299, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36569634e-02   1.23403748e-03   9.85077683e-01   3.13163632e-05]
, probs: [ 0.83762568  0.12681315  0.03556117]
iter 1300, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34392775e-02   1.21002642e-03   9.85320232e-01   3.04636303e-05]
, probs: [ 0.83771887  0.12675683  0.03552431]
iter 1301, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.34392775e-02   1.21002642e-03   9.85320232e-01   3.04636303e-05]
, probs: [ 0.83781054  0.12670141  0.03548805]
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iter 1302, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32250316e-02   1.18648033e-03   9.85558854e-01   2.96340874e-05]
, probs: [ 0.83781054  0.12670141  0.03548805]
iter 1303, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.30141722e-02   1.16339029e-03   9.85793610e-01   2.88271052e-05]
, probs: [ 0.83790071  0.12664689  0.0354524 ]
iter 1304, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.30141722e-02   1.16339029e-03   9.85793610e-01   2.88271052e-05]
, probs: [ 0.83798942  0.12659325  0.03541733]
iter 1305, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.28066467e-02   1.14074754e-03   9.86024564e-01   2.80420712e-05]
, probs: [ 0.83798942  0.12659325  0.03541733]
iter 1306, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.26024033e-02   1.11854349e-03   9.86251775e-01   2.72783898e-05]
, probs: [ 0.83807668  0.12654047  0.03538285]
iter 1307, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.24013910e-02   1.09676972e-03   9.86475304e-01   2.65354812e-05]
, probs: [ 0.83816252  0.12648854  0.03534894]
iter 1308, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.22035595e-02   1.07541794e-03   9.86695210e-01   2.58127815e-05]
, probs: [ 0.83824696  0.12643745  0.03531559]
iter 1309, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.22035595e-02   1.07541794e-03   9.86695210e-01   2.58127815e-05]
, probs: [ 0.83833002  0.12638719  0.03528279]
iter 1310, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20088593e-02   1.05448006e-03   9.86911551e-01   2.51097420e-05]
, probs: [ 0.83833002  0.12638719  0.03528279]
iter 1311, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.18172417e-02   1.03394810e-03   9.87124384e-01   2.44258288e-05]
, probs: [ 0.83841173  0.12633773  0.03525054]
iter 1312, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.16286586e-02   1.01381427e-03   9.87333767e-01   2.37605226e-05]
, probs: [ 0.83849211  0.12628908  0.03521882]
iter 1313, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.16286586e-02   1.01381427e-03   9.87333767e-01   2.37605226e-05]
, probs: [ 0.83857117  0.1262412   0.03518762]
iter 1314, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.14430626e-02   9.94070903e-04   9.87539753e-01   2.31133180e-05]
, probs: [ 0.83857117  0.1262412   0.03518762]
iter 1315, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.22459177e-02   1.04708868e-03   9.86682648e-01   2.43460438e-05]
, probs: [ 0.83864895  0.1261941   0.03515695]
iter 1316, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20505424e-02   1.02670240e-03   9.86899072e-01   2.36829530e-05]
, probs: [ 0.83832806  0.12639174  0.0352802 ]
iter 1317, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.18582602e-02   1.00671135e-03   9.87111991e-01   2.30379018e-05]
, probs: [ 0.83840975  0.12634223  0.03524802]
iter 1318, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.16690231e-02   9.87107934e-04   9.87321459e-01   2.24104002e-05]
, probs: [ 0.8384901   0.12629352  0.03521638]
iter 1319, selected_arm: 2, reward_of_selected_arm: 1, weights: [
1.34224015e-02   1.30880751e-03   9.85232878e-01   3.59126921e-05]
, probs: [ 0.83856915  0.1262456   0.03518526]
iter 1320, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32084382e-02   1.28334032e-03   9.85473287e-01   3.49347837e-05]
, probs: [ 0.83776888  0.12671622  0.0355149 ]
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iter 1321, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.29978563e-02   1.25836633e-03   9.85709794e-01   3.39834702e-05]
, probs: [ 0.83785991  0.1266614   0.0354787 ]
iter 1322, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.39049823e-02   1.32508979e-03   9.84734143e-01   3.57854055e-05]
, probs: [ 0.83794945  0.12660745  0.0354431 ]
iter 1323, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36833888e-02   1.29931068e-03   9.84982490e-01   3.48110335e-05]
, probs: [ 0.83758356  0.12683206  0.03558438]
iter 1324, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.34652954e-02   1.27403065e-03   9.85226811e-01   3.38631572e-05]
, probs: [ 0.83767754  0.12677539  0.03554707]
iter 1325, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.44036961e-02   1.34147790e-03   9.84219170e-01   3.56558747e-05]
, probs: [ 0.83776999  0.12671963  0.03551037]
iter 1326, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.41742219e-02   1.31538510e-03   9.84475708e-01   3.46851020e-05]
, probs: [ 0.83739224  0.12695168  0.03565608]
iter 1327, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.41742219e-02   1.31538510e-03   9.84475708e-01   3.46851020e-05]
, probs: [ 0.83748927  0.12689311  0.03561762]
iter 1328, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.41742219e-02   1.31538510e-03   9.84475708e-01   3.46851020e-05]
, probs: [ 0.83748927  0.12689311  0.03561762]
iter 1329, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39483702e-02   1.28979728e-03   9.84728092e-01   3.37407240e-05]
, probs: [ 0.83748927  0.12689311  0.03561762]
iter 1330, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37260848e-02   1.26470474e-03   9.84976388e-01   3.28220246e-05]
, probs: [ 0.83758472  0.12683549  0.03557979]
iter 1331, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.35073106e-02   1.24009799e-03   9.85220663e-01   3.19283071e-05]
, probs: [ 0.83767861  0.12677879  0.03554259]
iter 1332, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.32919931e-02   1.21596772e-03   9.85460980e-01   3.10588935e-05]
, probs: [ 0.83777098  0.12672301  0.03550601]
iter 1333, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.32919931e-02   1.21596772e-03   9.85460980e-01   3.10588935e-05]
, probs: [ 0.83786184  0.12666812  0.03547004]
iter 1334, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.30800785e-02   1.19230477e-03   9.85697404e-01   3.02131244e-05]
, probs: [ 0.83786184  0.12666812  0.03547004]
iter 1335, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.28715142e-02   1.16910017e-03   9.85929995e-01   2.93903578e-05]
, probs: [ 0.83795121  0.12661412  0.03543466]
iter 1336, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.26662480e-02   1.14634513e-03   9.86158817e-01   2.85899696e-05]
, probs: [ 0.83803913  0.126561    0.03539987]
iter 1337, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.26662480e-02   1.14634513e-03   9.86158817e-01   2.85899696e-05]
, probs: [ 0.83812562  0.12650872  0.03536566]
iter 1338, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.24642287e-02   1.12403101e-03   9.86383929e-01   2.78113522e-05]
, probs: [ 0.83812562  0.12650872  0.03536566]
iter 1339, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.22654058e-02   1.10214933e-03   9.86605391e-01   2.70539145e-05]
, probs: [ 0.8382107   0.12645729  0.03533201]
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iter 1340, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20697294e-02   1.08069178e-03   9.86823262e-01   2.63170816e-05]
, probs: [ 0.83829439  0.12640669  0.03529892]
iter 1341, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.18771508e-02   1.05965021e-03   9.87037599e-01   2.56002939e-05]
, probs: [ 0.83837671  0.12635691  0.03526638]
iter 1342, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.18771508e-02   1.05965021e-03   9.87037599e-01   2.56002939e-05]
, probs: [ 0.83845769  0.12630793  0.03523437]
iter 1343, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.16876215e-02   1.03901661e-03   9.87248459e-01   2.49030071e-05]
, probs: [ 0.83845769  0.12630793  0.03523437]
iter 1344, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.15010940e-02   1.01878314e-03   9.87455898e-01   2.42246917e-05]
, probs: [ 0.83853735  0.12625974  0.0352029 ]
iter 1345, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.13175216e-02   9.98942102e-04   9.87659971e-01   2.35648323e-05]
, probs: [ 0.83861572  0.12621233  0.03517195]
iter 1346, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.11368582e-02   9.79485933e-04   9.87860733e-01   2.29229277e-05]
, probs: [ 0.8386928   0.12616568  0.03514152]
iter 1347, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.09590582e-02   9.60407225e-04   9.88058236e-01   2.22984902e-05]
, probs: [ 0.83876862  0.12611979  0.03511159]
iter 1348, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.09590582e-02   9.60407225e-04   9.88058236e-01   2.22984902e-05]
, probs: [ 0.83884321  0.12607464  0.03508215]
iter 1349, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.07840770e-02   9.41698709e-04   9.88252533e-01   2.16910453e-05]
, probs: [ 0.83884321  0.12607464  0.03508215]
iter 1350, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.06118705e-02   9.23353253e-04   9.88443676e-01   2.11001312e-05]
, probs: [ 0.83891658  0.12603022  0.0350532 ]
iter 1351, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.04423954e-02   9.05363861e-04   9.88631715e-01   2.05252990e-05]
, probs: [ 0.83898875  0.12598651  0.03502474]
iter 1352, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.02756090e-02   8.87723668e-04   9.88816701e-01   1.99661115e-05]
, probs: [ 0.83905974  0.12594351  0.03499674]
iter 1353, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.01114691e-02   8.70425944e-04   9.88998683e-01   1.94221437e-05]
, probs: [ 0.83912958  0.12590121  0.03496921]
iter 1354, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.94993430e-03   8.53464082e-04   9.89177709e-01   1.88929820e-05]
, probs: [ 0.83919827  0.12585959  0.03494214]
iter 1355, selected_arm: 2, reward_of_selected_arm: 0, weights: [
9.94993430e-03   8.53464082e-04   9.89177709e-01   1.88929820e-05]
, probs: [ 0.83926585  0.12581864  0.03491551]
iter 1356, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.79096384e-03   8.36831604e-04   9.89353826e-01   1.83782239e-05]
, probs: [ 0.83926585  0.12581864  0.03491551]
iter 1357, selected_arm: 0, reward_of_selected_arm: 0, weights: [
9.79096384e-03   8.36831604e-04   9.89353826e-01   1.83782239e-05]
, probs: [ 0.83933232  0.12577836  0.03488933]
iter 1358, selected_arm: 0, reward_of_selected_arm: 0, weights: [
9.79096384e-03   8.36831604e-04   9.89353826e-01   1.83782239e-05]
, probs: [ 0.83933232  0.12577836  0.03488933]
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iter 1359, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.63451752e-03   8.20522155e-04   9.89527083e-01   1.78774780e-05]
, probs: [ 0.83933232  0.12577836  0.03488933]
iter 1360, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.48055577e-03   8.04529501e-04   9.89697524e-01   1.73903635e-05]
, probs: [ 0.8393977   0.12573872  0.03486358]
iter 1361, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.32903962e-03   7.88847527e-04   9.89865196e-01   1.69165098e-05]
, probs: [ 0.83946201  0.12569973  0.03483826]
iter 1362, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.17993070e-03   7.73470234e-04   9.90030144e-01   1.64555564e-05]
, probs: [ 0.83952528  0.12566137  0.03481335]
iter 1363, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.03319123e-03   7.58391737e-04   9.90192410e-01   1.60071525e-05]
, probs: [ 0.83958751  0.12562362  0.03478887]
iter 1364, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.88878400e-03   7.43606266e-04   9.90352039e-01   1.55709571e-05]
, probs: [ 0.83964872  0.12558649  0.03476478]
iter 1365, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.74667237e-03   7.29108158e-04   9.90509073e-01   1.51466381e-05]
, probs: [ 0.83970894  0.12554996  0.0347411 ]
iter 1366, selected_arm: 1, reward_of_selected_arm: 1, weights: [
9.36572781e-03   7.68369957e-04   9.89849940e-01   1.59622705e-05]
, probs: [ 0.83976817  0.12551402  0.03471781]
iter 1367, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.21603334e-03   7.53391898e-04   9.90015047e-01   1.55273195e-05]
, probs: [ 0.83952156  0.12566609  0.03481235]
iter 1368, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.06871761e-03   7.38704877e-04   9.90177473e-01   1.51042102e-05]
, probs: [ 0.83958381  0.12562829  0.0347879 ]
iter 1369, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.92374326e-03   7.24303272e-04   9.90337261e-01   1.46926205e-05]
, probs: [ 0.83964504  0.1255911   0.03476386]
iter 1370, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.78107351e-03   7.10181569e-04   9.90494453e-01   1.42922374e-05]
, probs: [ 0.83970528  0.12555451  0.03474021]
iter 1371, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.64067214e-03   6.96334358e-04   9.90649091e-01   1.39027560e-05]
, probs: [ 0.83976453  0.12551851  0.03471696]
iter 1372, selected_arm: 0, reward_of_selected_arm: 0, weights: [
8.64067214e-03   6.96334358e-04   9.90649091e-01   1.39027560e-05]
, probs: [ 0.83982282  0.12548309  0.03469409]
iter 1373, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.50250350e-03   6.82756334e-04   9.90801216e-01   1.35238799e-05]
, probs: [ 0.83982282  0.12548309  0.03469409]
iter 1374, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.36653248e-03   6.69442294e-04   9.90950870e-01   1.31553207e-05]
, probs: [ 0.83988015  0.12544825  0.0346716 ]
iter 1375, selected_arm: 0, reward_of_selected_arm: 0, weights: [
8.36653248e-03   6.69442294e-04   9.90950870e-01   1.31553207e-05]
, probs: [ 0.83993655  0.12541397  0.03464948]
iter 1376, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.23272449e-03   6.56387132e-04   9.91098092e-01   1.27967979e-05]
, probs: [ 0.83993655  0.12541397  0.03464948]
iter 1377, selected_arm: 1, reward_of_selected_arm: 1, weights: [
8.81640789e-03   6.91799929e-04   9.90478305e-01   1.34871990e-05]
, probs: [ 0.83999202  0.12538024  0.03462773]
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iter 1378, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.67544248e-03   6.78311185e-04   9.90633127e-01   1.31196565e-05]
, probs: [ 0.83976027  0.12552332  0.0347164 ]
iter 1379, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.53671873e-03   6.65084658e-04   9.90785434e-01   1.27621219e-05]
, probs: [ 0.83981859  0.12548784  0.03469357]
iter 1380, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.40020141e-03   6.52115279e-04   9.90935269e-01   1.24143231e-05]
, probs: [ 0.83987596  0.12545294  0.03467111]
iter 1381, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.26585580e-03   6.39398075e-04   9.91082670e-01   1.20759953e-05]
, probs: [ 0.83993239  0.1254186   0.03464902]
iter 1382, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.13364771e-03   6.26928169e-04   9.91227677e-01   1.17468808e-05]
, probs: [ 0.8399879   0.12538481  0.0346273 ]
iter 1383, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.00354351e-03   6.14700778e-04   9.91370329e-01   1.14267292e-05]
, probs: [ 0.8400425   0.12535157  0.03460593]
iter 1384, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.87551004e-03   6.02711208e-04   9.91510663e-01   1.11152965e-05]
, probs: [ 0.84009621  0.12531887  0.03458492]
iter 1385, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.74951470e-03   5.90954859e-04   9.91648718e-01   1.08123457e-05]
, probs: [ 0.84014905  0.12528669  0.03456426]
iter 1386, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.62552536e-03   5.79427216e-04   9.91784530e-01   1.05176460e-05]
, probs: [ 0.84020102  0.12525504  0.03454394]
iter 1387, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.50351039e-03   5.68123852e-04   9.91918135e-01   1.02309729e-05]
, probs: [ 0.84025215  0.1252239   0.03452396]
iter 1388, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.38343866e-03   5.57040424e-04   9.92049569e-01   9.95210805e-06]
, probs: [ 0.84030244  0.12519326  0.0345043 ]
iter 1389, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.26527952e-03   5.46172673e-04   9.92178867e-01   9.68083902e-06]
, probs: [ 0.84035191  0.12516312  0.03448498]
iter 1390, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.14900278e-03   5.35516422e-04   9.92306064e-01   9.41695913e-06]
, probs: [ 0.84040057  0.12513346  0.03446597]
iter 1391, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.03457874e-03   5.25067573e-04   9.92431193e-01   9.16026732e-06]
, probs: [ 0.84044844  0.12510429  0.03444728]
iter 1392, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.92197813e-03   5.14822108e-04   9.92554289e-01   8.91056800e-06]
, probs: [ 0.84049552  0.12507559  0.03442889]
iter 1393, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.81117216e-03   5.04776085e-04   9.92675384e-01   8.66767087e-06]
, probs: [ 0.84054184  0.12504735  0.03441081]
iter 1394, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.70213247e-03   4.94925640e-04   9.92794511e-01   8.43139083e-06]
, probs: [ 0.8405874   0.12501957  0.03439303]
iter 1395, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.70213247e-03   4.94925640e-04   9.92794511e-01   8.43139083e-06]
, probs: [ 0.84063222  0.12499224  0.03437555]
iter 1396, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.59483115e-03   4.85266980e-04   9.92911700e-01   8.20154778e-06]
, probs: [ 0.84063222  0.12499224  0.03437555]
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iter 1397, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.48924072e-03   4.75796388e-04   9.93026985e-01   7.97796654e-06]
, probs: [ 0.8406763   0.12496535  0.03435835]
iter 1398, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.38533412e-03   4.66510217e-04   9.93140395e-01   7.76047668e-06]
, probs: [ 0.84071967  0.1249389   0.03434144]
iter 1399, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.28308473e-03   4.57404890e-04   9.93251961e-01   7.54891240e-06]
, probs: [ 0.84076233  0.12491287  0.0343248 ]
iter 1400, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.18246632e-03   4.48476900e-04   9.93361714e-01   7.34311240e-06]
, probs: [ 0.84080429  0.12488727  0.03430845]
iter 1401, selected_arm: 1, reward_of_selected_arm: 1, weights: [
6.62372522e-03   4.72850922e-04   9.92895682e-01   7.74219914e-06]
, probs: [ 0.84084556  0.12486208  0.03429236]
iter 1402, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.51767293e-03   4.63622690e-04   9.93011173e-01   7.53114053e-06]
, probs: [ 0.84067152  0.12496979  0.03435869]
iter 1403, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.51767293e-03   4.63622690e-04   9.93011173e-01   7.53114053e-06]
, probs: [ 0.84071494  0.12494328  0.03434179]
iter 1404, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.41331182e-03   4.54574158e-04   9.93124788e-01   7.32583211e-06]
, probs: [ 0.84071494  0.12494328  0.03434179]
iter 1405, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.31061515e-03   4.45701841e-04   9.93236557e-01   7.12611737e-06]
, probs: [ 0.84075765  0.12491719  0.03432516]
iter 1406, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.20955656e-03   4.37002321e-04   9.93346509e-01   6.93184405e-06]
, probs: [ 0.84079966  0.12489153  0.03430881]
iter 1407, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.11011016e-03   4.28472246e-04   9.93454675e-01   6.74286402e-06]
, probs: [ 0.84084099  0.12486628  0.03429273]
iter 1408, selected_arm: 1, reward_of_selected_arm: 0, weights: [
6.11011016e-03   4.28472246e-04   9.93454675e-01   6.74286402e-06]
, probs: [ 0.84088164  0.12484144  0.03427692]
iter 1409, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.01225041e-03   4.20108328e-04   9.93561082e-01   6.55903319e-06]
, probs: [ 0.84088164  0.12484144  0.03427692]
iter 1410, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.91595219e-03   4.11907343e-04   9.93665760e-01   6.38021138e-06]
, probs: [ 0.84092163  0.124817    0.03426137]
iter 1411, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.91595219e-03   4.11907343e-04   9.93665760e-01   6.38021138e-06]
, probs: [ 0.84096097  0.12479296  0.03424607]
iter 1412, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.82119077e-03   4.03866128e-04   9.93768737e-01   6.20626224e-06]
, probs: [ 0.84096097  0.12479296  0.03424607]
iter 1413, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.72794182e-03   3.95981584e-04   9.93870040e-01   6.03705309e-06]
, probs: [ 0.84099966  0.12476931  0.03423103]
iter 1414, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.72794182e-03   3.95981584e-04   9.93870040e-01   6.03705309e-06]
, probs: [ 0.84103773  0.12474604  0.03421624]
iter 1415, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.63618135e-03   3.88250668e-04   9.93969696e-01   5.87245489e-06]
, probs: [ 0.84103773  0.12474604  0.03421624]
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iter 1416, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.54588579e-03   3.80670397e-04   9.94067731e-01   5.71234209e-06]
, probs: [ 0.84107517  0.12472314  0.03420169]
iter 1417, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.45703191e-03   3.73237847e-04   9.94164174e-01   5.55659256e-06]
, probs: [ 0.841112    0.12470062  0.03418738]
iter 1418, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.45703191e-03   3.73237847e-04   9.94164174e-01   5.55659256e-06]
, probs: [ 0.84114823  0.12467846  0.03417331]
iter 1419, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.36959684e-03   3.65950149e-04   9.94259048e-01   5.40508750e-06]
, probs: [ 0.84114823  0.12467846  0.03417331]
iter 1420, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.28355810e-03   3.58804488e-04   9.94352380e-01   5.25771132e-06]
, probs: [ 0.84118387  0.12465666  0.03415947]
iter 1421, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.19889352e-03   3.51798107e-04   9.94444194e-01   5.11435160e-06]
, probs: [ 0.84121893  0.12463522  0.03414586]
iter 1422, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.19889352e-03   3.51798107e-04   9.94444194e-01   5.11435160e-06]
, probs: [ 0.84125341  0.12461412  0.03413247]
iter 1423, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.11558131e-03   3.44928299e-04   9.94534515e-01   4.97489894e-06]
, probs: [ 0.84125341  0.12461412  0.03413247]
iter 1424, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.03359999e-03   3.38192410e-04   9.94623368e-01   4.83924696e-06]
, probs: [ 0.84128733  0.12459336  0.03411931]
iter 1425, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.03359999e-03   3.38192410e-04   9.94623368e-01   4.83924696e-06]
, probs: [ 0.8413207   0.12457294  0.03410636]
iter 1426, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.95292845e-03   3.31587838e-04   9.94710776e-01   4.70729214e-06]
, probs: [ 0.8413207   0.12457294  0.03410636]
iter 1427, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.95292845e-03   3.31587838e-04   9.94710776e-01   4.70729214e-06]
, probs: [ 0.84135352  0.12455285  0.03409363]
iter 1428, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.30784503e-03   3.49688312e-04   9.94337502e-01   4.96425035e-06]
, probs: [ 0.84135352  0.12455285  0.03409363]
iter 1429, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.22279187e-03   3.42859974e-04   9.94429519e-01   4.82889254e-06]
, probs: [ 0.84121425  0.12463921  0.03414654]
iter 1430, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.13909727e-03   3.36164739e-04   9.94520041e-01   4.69722371e-06]
, probs: [ 0.84124879  0.12461805  0.03413316]
iter 1431, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.05673966e-03   3.29600019e-04   9.94609091e-01   4.56914341e-06]
, probs: [ 0.84128277  0.12459724  0.03411999]
iter 1432, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.41898329e-03   3.47585879e-04   9.94228612e-01   4.81847585e-06]
, probs: [ 0.8413162   0.12457676  0.03410704]
iter 1433, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.33215446e-03   3.40798872e-04   9.94322360e-01   4.68709483e-06]
, probs: [ 0.84117428  0.12466481  0.03416091]
iter 1434, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.24671239e-03   3.34144151e-04   9.94414584e-01   4.55929432e-06]
, probs: [ 0.84120946  0.12464324  0.0341473 ]
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iter 1435, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.16263506e-03   3.27619146e-04   9.94505311e-01   4.43497683e-06]
, probs: [ 0.84124406  0.12462203  0.03413391]
iter 1436, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.07990082e-03   3.21221337e-04   9.94594564e-01   4.31404749e-06]
, probs: [ 0.8412781   0.12460116  0.03412074]
iter 1437, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.44378544e-03   3.38749021e-04   9.94212916e-01   4.54944673e-06]
, probs: [ 0.84131158  0.12458063  0.03410779]
iter 1438, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.44378544e-03   3.38749021e-04   9.94212916e-01   4.54944673e-06]
, probs: [ 0.84116927  0.12466897  0.03416175]
iter 1439, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.35655987e-03   3.32134597e-04   9.94306880e-01   4.42540133e-06]
, probs: [ 0.84116927  0.12466897  0.03416175]
iter 1440, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.27072736e-03   3.25649094e-04   9.94399319e-01   4.30473651e-06]
, probs: [ 0.84120451  0.12464735  0.03414814]
iter 1441, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.18626582e-03   3.19290008e-04   9.94490257e-01   4.18736022e-06]
, probs: [ 0.84123918  0.12462608  0.03413474]
iter 1442, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.10315349e-03   3.13054883e-04   9.94579718e-01   4.07318290e-06]
, probs: [ 0.84127328  0.12460515  0.03412157]
iter 1443, selected_arm: 2, reward_of_selected_arm: 0, weights: [
5.10315349e-03   3.13054883e-04   9.94579718e-01   4.07318290e-06]
, probs: [ 0.84130683  0.12458455  0.03410862]
iter 1444, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.10315349e-03   3.13054883e-04   9.94579718e-01   4.07318290e-06]
, probs: [ 0.84130683  0.12458455  0.03410862]
iter 1445, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.46868519e-03   3.30136005e-04   9.94196883e-01   4.29542679e-06]
, probs: [ 0.84130683  0.12458455  0.03410862]
iter 1446, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.38106133e-03   3.23689793e-04   9.94291071e-01   4.17830774e-06]
, probs: [ 0.84116412  0.1246732   0.03416268]
iter 1447, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.29483687e-03   3.17369222e-04   9.94383730e-01   4.06438050e-06]
, probs: [ 0.84119943  0.12465152  0.03414905]
iter 1448, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.20998963e-03   3.11171853e-04   9.94474885e-01   3.95355816e-06]
, probs: [ 0.84123416  0.12463018  0.03413565]
iter 1449, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.20998963e-03   3.11171853e-04   9.94474885e-01   3.95355816e-06]
, probs: [ 0.84126833  0.12460919  0.03412248]
iter 1450, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.58305516e-03   3.28144297e-04   9.94084631e-01   4.16919960e-06]
, probs: [ 0.84126833  0.12460919  0.03412248]
iter 1451, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.49360431e-03   3.21737243e-04   9.94180603e-01   4.05552407e-06]
, probs: [ 0.84112289  0.12469958  0.03417752]
iter 1452, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.49360431e-03   3.21737243e-04   9.94180603e-01   4.05552407e-06]
, probs: [ 0.84115886  0.12467748  0.03416366]
iter 1453, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.49360431e-03   3.21737243e-04   9.94180603e-01   4.05552407e-06]
, probs: [ 0.84115886  0.12467748  0.03416366]
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iter 1454, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.49360431e-03   3.21737243e-04   9.94180603e-01   4.05552407e-06]
, probs: [ 0.84115886  0.12467748  0.03416366]
iter 1455, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.49360431e-03   3.21737243e-04   9.94180603e-01   4.05552407e-06]
, probs: [ 0.84115886  0.12467748  0.03416366]
iter 1456, selected_arm: 2, reward_of_selected_arm: 1, weights: [
6.35321880e-03   4.30723582e-04   9.93209458e-01   6.59921277e-06]
, probs: [ 0.84115886  0.12467748  0.03416366]
iter 1457, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.25147929e-03   4.22316492e-04   9.93319785e-01   6.41930461e-06]
, probs: [ 0.84079101  0.1248987   0.03431028]
iter 1458, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.15136278e-03   4.14073149e-04   9.93428320e-01   6.24429831e-06]
, probs: [ 0.84083245  0.12487335  0.0342942 ]
iter 1459, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.05284358e-03   4.05990376e-04   9.93535092e-01   6.07406044e-06]
, probs: [ 0.84087321  0.12484841  0.03427838]
iter 1460, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.95589640e-03   3.98065056e-04   9.93640130e-01   5.90846120e-06]
, probs: [ 0.84091331  0.12482387  0.03426282]
iter 1461, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.86049634e-03   3.90294135e-04   9.93743462e-01   5.74737430e-06]
, probs: [ 0.84095276  0.12479973  0.03424752]
iter 1462, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.86049634e-03   3.90294135e-04   9.93743462e-01   5.74737430e-06]
, probs: [ 0.84099156  0.12477598  0.03423247]
iter 1463, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.76661890e-03   3.82674615e-04   9.93845116e-01   5.59067688e-06]
, probs: [ 0.84099156  0.12477598  0.03423247]
iter 1464, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.67423995e-03   3.75203557e-04   9.93945118e-01   5.43824945e-06]
, probs: [ 0.84102973  0.12475261  0.03421766]
iter 1465, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.58333575e-03   3.67878080e-04   9.94043496e-01   5.28997574e-06]
, probs: [ 0.84106727  0.12472962  0.03420311]
iter 1466, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.49388291e-03   3.60695355e-04   9.94140276e-01   5.14574266e-06]
, probs: [ 0.8411042   0.124707    0.03418879]
iter 1467, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.40585842e-03   3.53652612e-04   9.94235484e-01   5.00544017e-06]
, probs: [ 0.84114054  0.12468475  0.03417471]
iter 1468, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.31923964e-03   3.46747131e-04   9.94329144e-01   4.86896126e-06]
, probs: [ 0.84117627  0.12466286  0.03416086]
iter 1469, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.31923964e-03   3.46747131e-04   9.94329144e-01   4.86896126e-06]
, probs: [ 0.84121143  0.12464133  0.03414724]
iter 1470, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.23400426e-03   3.39976245e-04   9.94421283e-01   4.73620180e-06]
, probs: [ 0.84121143  0.12464133  0.03414724]
iter 1471, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.23400426e-03   3.39976245e-04   9.94421283e-01   4.73620180e-06]
, probs: [ 0.84124601  0.12462014  0.03413385]
iter 1472, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.15013033e-03   3.33337341e-04   9.94511925e-01   4.60706050e-06]
, probs: [ 0.84124601  0.12462014  0.03413385]
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iter 1473, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.15013033e-03   3.33337341e-04   9.94511925e-01   4.60706050e-06]
, probs: [ 0.84128003  0.12459929  0.03412068]
iter 1474, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.15013033e-03   3.33337341e-04   9.94511925e-01   4.60706050e-06]
, probs: [ 0.84128003  0.12459929  0.03412068]
iter 1475, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.06759624e-03   3.26827853e-04   9.94601094e-01   4.48143883e-06]
, probs: [ 0.84128003  0.12459929  0.03412068]
iter 1476, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.98638074e-03   3.20445267e-04   9.94688815e-01   4.35924093e-06]
, probs: [ 0.84131349  0.12457879  0.03410772]
iter 1477, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.90646288e-03   3.14187117e-04   9.94775110e-01   4.24037357e-06]
, probs: [ 0.84134641  0.12455861  0.03409498]
iter 1478, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.90646288e-03   3.14187117e-04   9.94775110e-01   4.24037357e-06]
, probs: [ 0.84137879  0.12453876  0.03408244]
iter 1479, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.82782206e-03   3.08050984e-04   9.94860002e-01   4.12474603e-06]
, probs: [ 0.84137879  0.12453876  0.03408244]
iter 1480, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.75043799e-03   3.02034497e-04   9.94943515e-01   4.01227006e-06]
, probs: [ 0.84141065  0.12451924  0.03407012]
iter 1481, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.75043799e-03   3.02034497e-04   9.94943515e-01   4.01227006e-06]
, probs: [ 0.84144198  0.12450002  0.034058  ]
iter 1482, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.75043799e-03   3.02034497e-04   9.94943515e-01   4.01227006e-06]
, probs: [ 0.84144198  0.12450002  0.034058  ]
iter 1483, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.67429072e-03   2.96135328e-04   9.95025671e-01   3.90285984e-06]
, probs: [ 0.84144198  0.12450002  0.034058  ]
iter 1484, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.00955102e-03   3.12317003e-04   9.94674016e-01   4.11612318e-06]
, probs: [ 0.8414728   0.12448112  0.03404608]
iter 1485, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.36848017e-03   3.29363191e-04   9.94297816e-01   4.34078021e-06]
, probs: [ 0.84134167  0.12456253  0.0340958 ]
iter 1486, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.28245705e-03   3.22931825e-04   9.94390389e-01   4.22242284e-06]
, probs: [ 0.84120142  0.12464962  0.03414896]
iter 1487, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.28245705e-03   3.22931825e-04   9.94390389e-01   4.22242284e-06]
, probs: [ 0.84123613  0.12462832  0.03413556]
iter 1488, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.19780794e-03   3.16625820e-04   9.94481459e-01   4.10729112e-06]
, probs: [ 0.84123613  0.12462832  0.03413556]
iter 1489, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.11451102e-03   3.10442740e-04   9.94571051e-01   3.99529719e-06]
, probs: [ 0.84127027  0.12460735  0.03412237]
iter 1490, selected_arm: 1, reward_of_selected_arm: 0, weights: [
5.11451102e-03   3.10442740e-04   9.94571051e-01   3.99529719e-06]
, probs: [ 0.84130386  0.12458673  0.03410941]
iter 1491, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.03254482e-03   3.04380197e-04   9.94659189e-01   3.88635560e-06]
, probs: [ 0.84130386  0.12458673  0.03410941]
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iter 1492, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.95188824e-03   2.98435848e-04   9.94745896e-01   3.78038322e-06]
, probs: [ 0.8413369   0.12456644  0.03409666]
iter 1493, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.87252046e-03   2.92607396e-04   9.94831195e-01   3.67729918e-06]
, probs: [ 0.84136941  0.12454647  0.03408412]
iter 1494, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.22179240e-03   3.08585926e-04   9.94465744e-01   3.87810693e-06]
, probs: [ 0.84140138  0.12452683  0.03407178]
iter 1495, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.13811176e-03   3.02559880e-04   9.94555556e-01   3.77236240e-06]
, probs: [ 0.84126519  0.12461148  0.03412334]
iter 1496, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.05576796e-03   2.96651309e-04   9.94643911e-01   3.66949987e-06]
, probs: [ 0.84129884  0.12459079  0.03411037]
iter 1497, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.97473978e-03   2.90857930e-04   9.94730833e-01   3.56944086e-06]
, probs: [ 0.84133195  0.12457044  0.03409761]
iter 1498, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.89500633e-03   2.85177503e-04   9.94816344e-01   3.47210902e-06]
, probs: [ 0.84136452  0.12455042  0.03408506]
iter 1499, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.24587246e-03   3.00749445e-04   9.94449716e-01   3.66170140e-06]
, probs: [ 0.84139656  0.12453072  0.03407272]
iter 1500, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.16180659e-03   2.94876462e-04   9.94539755e-01   3.56185781e-06]
, probs: [ 0.84125996  0.12461566  0.03412438]
iter 1501, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.07908370e-03   2.89117967e-04   9.94628334e-01   3.46473539e-06]
, probs: [ 0.84129369  0.12459491  0.0341114 ]
iter 1502, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.99768247e-03   2.83471737e-04   9.94715476e-01   3.37026003e-06]
, probs: [ 0.84132687  0.1245745   0.03409863]
iter 1503, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.99768247e-03   2.83471737e-04   9.94715476e-01   3.37026003e-06]
, probs: [ 0.8413595   0.12455442  0.03408607]
iter 1504, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.91758191e-03   2.77935590e-04   9.94801204e-01   3.27835965e-06]
, probs: [ 0.8413595   0.12455442  0.03408607]
iter 1505, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.91758191e-03   2.77935590e-04   9.94801204e-01   3.27835965e-06]
, probs: [ 0.84139161  0.12453467  0.03407372]
iter 1506, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.83876136e-03   2.72507386e-04   9.94885542e-01   3.18896410e-06]
, probs: [ 0.84139161  0.12453467  0.03407372]
iter 1507, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.83876136e-03   2.72507386e-04   9.94885542e-01   3.18896410e-06]
, probs: [ 0.84142319  0.12451523  0.03406158]
iter 1508, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.76120050e-03   2.67185027e-04   9.94968512e-01   3.10200516e-06]
, probs: [ 0.84142319  0.12451523  0.03406158]
iter 1509, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.68487930e-03   2.61966454e-04   9.95050137e-01   3.01741647e-06]
, probs: [ 0.84145426  0.12449611  0.03404963]
iter 1510, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.60977808e-03   2.56849650e-04   9.95130437e-01   2.93513346e-06]
, probs: [ 0.84148483  0.12447729  0.03403788]
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iter 1511, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.53587743e-03   2.51832636e-04   9.95209435e-01   2.85509334e-06]
, probs: [ 0.84151489  0.12445878  0.03402632]
iter 1512, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.46315828e-03   2.46913471e-04   9.95287151e-01   2.77723499e-06]
, probs: [ 0.84154447  0.12444057  0.03401496]
iter 1513, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.39160184e-03   2.42090252e-04   9.95363606e-01   2.70149899e-06]
, probs: [ 0.84157357  0.12442266  0.03400378]
iter 1514, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.32118962e-03   2.37361113e-04   9.95438821e-01   2.62782752e-06]
, probs: [ 0.84160219  0.12440503  0.03399278]
iter 1515, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.25190342e-03   2.32724223e-04   9.95512816e-01   2.55616433e-06]
, probs: [ 0.84163035  0.12438769  0.03398196]
iter 1516, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.25190342e-03   2.32724223e-04   9.95512816e-01   2.55616433e-06]
, probs: [ 0.84165804  0.12437063  0.03397133]
iter 1517, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.25190342e-03   2.32724223e-04   9.95512816e-01   2.55616433e-06]
, probs: [ 0.84165804  0.12437063  0.03397133]
iter 1518, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.18372533e-03   2.28177788e-04   9.95585610e-01   2.48645473e-06]
, probs: [ 0.84165804  0.12437063  0.03397133]
iter 1519, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.48429386e-03   2.40668609e-04   9.95272415e-01   2.62256728e-06]
, probs: [ 0.84168529  0.12435384  0.03396086]
iter 1520, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.48429386e-03   2.40668609e-04   9.95272415e-01   2.62256728e-06]
, probs: [ 0.84156868  0.12442645  0.03400487]
iter 1521, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.41239909e-03   2.35967401e-04   9.95349082e-01   2.55104925e-06]
, probs: [ 0.84156868  0.12442645  0.03400487]
iter 1522, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.34165393e-03   2.31357892e-04   9.95424507e-01   2.48148076e-06]
, probs: [ 0.84159737  0.12440877  0.03399387]
iter 1523, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.65341722e-03   2.44016052e-04   9.95099949e-01   2.61724869e-06]
, probs: [ 0.84162559  0.12439137  0.03398304]
iter 1524, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.57881812e-03   2.39249765e-04   9.95179386e-01   2.54587745e-06]
, probs: [ 0.84150477  0.12446663  0.03402861]
iter 1525, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.50541165e-03   2.34576434e-04   9.95257535e-01   2.47645169e-06]
, probs: [ 0.84153448  0.1244483   0.03401722]
iter 1526, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.82877142e-03   2.47403605e-04   9.94921213e-01   2.61186967e-06]
, probs: [ 0.84156372  0.12443027  0.03400601]
iter 1527, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.75136891e-03   2.42571474e-04   9.95003519e-01   2.54064694e-06]
, probs: [ 0.84143854  0.12450827  0.03405319]
iter 1528, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.67520360e-03   2.37833573e-04   9.95084491e-01   2.47136554e-06]
, probs: [ 0.84146932  0.12448927  0.03404141]
iter 1529, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.60025582e-03   2.33188070e-04   9.95164152e-01   2.40397261e-06]
, probs: [ 0.8414996   0.12447059  0.03402981]
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iter 1530, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.52650623e-03   2.28633168e-04   9.95242522e-01   2.33841670e-06]
, probs: [ 0.84152939  0.1244522   0.03401841]
iter 1531, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.45393578e-03   2.24167105e-04   9.95319622e-01   2.27464777e-06]
, probs: [ 0.84155869  0.12443411  0.03400719]
iter 1532, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.38252571e-03   2.19788153e-04   9.95395474e-01   2.21261714e-06]
, probs: [ 0.84158752  0.12441631  0.03399616]
iter 1533, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.31225757e-03   2.15494617e-04   9.95470096e-01   2.15227745e-06]
, probs: [ 0.84161588  0.1243988   0.03398531]
iter 1534, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.24311319e-03   2.11284836e-04   9.95543508e-01   2.09358263e-06]
, probs: [ 0.84164378  0.12438158  0.03397464]
iter 1535, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.54790577e-03   2.22849137e-04   9.95227037e-01   2.20817117e-06]
, probs: [ 0.84167123  0.12436463  0.03396414]
iter 1536, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.47499280e-03   2.18496080e-04   9.95304363e-01   2.14795417e-06]
, probs: [ 0.84155348  0.12443805  0.03400846]
iter 1537, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.47499280e-03   2.18496080e-04   9.95304363e-01   2.14795417e-06]
, probs: [ 0.84158238  0.1244202   0.03399742]
iter 1538, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.40324568e-03   2.14227930e-04   9.95380437e-01   2.08937864e-06]
, probs: [ 0.84158238  0.1244202   0.03399742]
iter 1539, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.71938568e-03   2.25946993e-04   9.95052464e-01   2.20367541e-06]
, probs: [ 0.84161082  0.12440263  0.03398655]
iter 1540, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.64373086e-03   2.21533714e-04   9.95132592e-01   2.14358251e-06]
, probs: [ 0.84148882  0.12447874  0.03403245]
iter 1541, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.64373086e-03   2.21533714e-04   9.95132592e-01   2.14358251e-06]
, probs: [ 0.84151876  0.12446023  0.03402102]
iter 1542, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.56928548e-03   2.17206505e-04   9.95211423e-01   2.08512763e-06]
, probs: [ 0.84151876  0.12446023  0.03402102]
iter 1543, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.56928548e-03   2.17206505e-04   9.95211423e-01   2.08512763e-06]
, probs: [ 0.84154821  0.12444202  0.03400977]
iter 1544, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.56928548e-03   2.17206505e-04   9.95211423e-01   2.08512763e-06]
, probs: [ 0.84154821  0.12444202  0.03400977]
iter 1545, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.49603033e-03   2.12963693e-04   9.95288978e-01   2.02826616e-06]
, probs: [ 0.84154821  0.12444202  0.03400977]
iter 1546, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.42394647e-03   2.08803636e-04   9.95365277e-01   1.97295468e-06]
, probs: [ 0.84157719  0.1244241   0.03399871]
iter 1547, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.42394647e-03   2.08803636e-04   9.95365277e-01   1.97295468e-06]
, probs: [ 0.84160569  0.12440648  0.03398783]
iter 1548, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.35301529e-03   2.04724723e-04   9.95440341e-01   1.91915097e-06]
, probs: [ 0.84160569  0.12440648  0.03398783]
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iter 1549, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.28321845e-03   2.00725377e-04   9.95514189e-01   1.86681396e-06]
, probs: [ 0.84163374  0.12438913  0.03397713]
iter 1550, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.28321845e-03   2.00725377e-04   9.95514189e-01   1.86681396e-06]
, probs: [ 0.84166132  0.12437207  0.0339666 ]
iter 1551, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.28321845e-03   2.00725377e-04   9.95514189e-01   1.86681396e-06]
, probs: [ 0.84166132  0.12437207  0.0339666 ]
iter 1552, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.21453789e-03   1.96804050e-04   9.95586842e-01   1.81590368e-06]
, probs: [ 0.84166132  0.12437207  0.0339666 ]
iter 1553, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.14695587e-03   1.92959223e-04   9.95658319e-01   1.76638128e-06]
, probs: [ 0.84168846  0.12435529  0.03395625]
iter 1554, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.44494077e-03   2.03524381e-04   9.95349672e-01   1.86309651e-06]
, probs: [ 0.84171516  0.12433877  0.03394607]
iter 1555, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.37367354e-03   1.99548618e-04   9.95424966e-01   1.81228881e-06]
, probs: [ 0.84160039  0.12441042  0.03398919]
iter 1556, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.30354601e-03   1.95650410e-04   9.95499041e-01   1.76286613e-06]
, probs: [ 0.84162851  0.12439302  0.03397847]
iter 1557, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.23454004e-03   1.91828246e-04   9.95571917e-01   1.71479073e-06]
, probs: [ 0.84165617  0.1243759   0.03396793]
iter 1558, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.53873867e-03   2.02328454e-04   9.95257124e-01   1.80865418e-06]
, probs: [ 0.84168339  0.12435905  0.03395756]
iter 1559, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.46597127e-03   1.98376191e-04   9.95333893e-01   1.75933180e-06]
, probs: [ 0.84156635  0.12443214  0.03400151]
iter 1560, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.39436743e-03   1.94501017e-04   9.95409420e-01   1.71135392e-06]
, probs: [ 0.84159501  0.1244144   0.03399059]
iter 1561, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.32390866e-03   1.90701434e-04   9.95483725e-01   1.66468391e-06]
, probs: [ 0.84162321  0.12439693  0.03397986]
iter 1562, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.63444422e-03   2.01136897e-04   9.95162663e-01   1.75577786e-06]
, probs: [ 0.84165095  0.12437975  0.0339693 ]
iter 1563, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.56014629e-03   1.97208047e-04   9.95240938e-01   1.70789807e-06]
, probs: [ 0.84153161  0.12445431  0.03401408]
iter 1564, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.56014629e-03   1.97208047e-04   9.95240938e-01   1.70789807e-06]
, probs: [ 0.84156082  0.12443621  0.03400297]
iter 1565, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.48703628e-03   1.93355826e-04   9.95317947e-01   1.66132343e-06]
, probs: [ 0.84156082  0.12443621  0.03400297]
iter 1566, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.41509530e-03   1.89578744e-04   9.95393710e-01   1.61601838e-06]
, probs: [ 0.84158956  0.1244184   0.03399204]
iter 1567, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.34430474e-03   1.85875338e-04   9.95468248e-01   1.57194834e-06]
, probs: [ 0.84161783  0.12440088  0.03398128]
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iter 1568, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.27464632e-03   1.82244176e-04   9.95541580e-01   1.52907967e-06]
, probs: [ 0.84164565  0.12438364  0.03397071]
iter 1569, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.58169580e-03   1.92218695e-04   9.95224473e-01   1.61276868e-06]
, probs: [ 0.84167302  0.12436668  0.0339603 ]
iter 1570, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.50824092e-03   1.88463957e-04   9.95301726e-01   1.56878833e-06]
, probs: [ 0.84155517  0.12444034  0.03400449]
iter 1571, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.50824092e-03   1.88463957e-04   9.95301726e-01   1.56878833e-06]
, probs: [ 0.841584    0.12442247  0.03399354]
iter 1572, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.83183627e-03   1.98770730e-04   9.94967738e-01   1.65458269e-06]
, probs: [ 0.841584    0.12442247  0.03399354]
iter 1573, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.75438216e-03   1.94888382e-04   9.95049120e-01   1.60946372e-06]
, probs: [ 0.8414599   0.12450006  0.03404004]
iter 1574, selected_arm: 2, reward_of_selected_arm: 1, weights: [
5.50239003e-03   2.61250147e-04   9.94233735e-01   2.62443728e-06]
, probs: [ 0.84149025  0.12448123  0.03402852]
iter 1575, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.50239003e-03   2.61250147e-04   9.94233735e-01   2.62443728e-06]
, probs: [ 0.84118374  0.12466839  0.03414787]
iter 1576, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.41422354e-03   2.56148894e-04   9.94327075e-01   2.55287887e-06]
, probs: [ 0.84118374  0.12466839  0.03414787]
iter 1577, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.32746522e-03   2.51147073e-04   9.94418904e-01   2.48327065e-06]
, probs: [ 0.84121861  0.12464683  0.03413456]
iter 1578, selected_arm: 1, reward_of_selected_arm: 1, weights: [
5.70886168e-03   2.64842350e-04   9.94023677e-01   2.61868564e-06]
, probs: [ 0.84125292  0.12462561  0.03412147]
iter 1579, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.61739753e-03   2.59671363e-04   9.94120384e-01   2.54728620e-06]
, probs: [ 0.84110593  0.12471735  0.03417672]
iter 1580, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.52739387e-03   2.54601153e-04   9.94215527e-01   2.47783253e-06]
, probs: [ 0.84114206  0.124695    0.03416294]
iter 1581, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.43882756e-03   2.49629762e-04   9.94309132e-01   2.41027163e-06]
, probs: [ 0.84117759  0.12467302  0.03414939]
iter 1582, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.43882756e-03   2.49629762e-04   9.94309132e-01   2.41027163e-06]
, probs: [ 0.84121255  0.12465139  0.03413606]
iter 1583, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.35167577e-03   2.44755270e-04   9.94401224e-01   2.34455198e-06]
, probs: [ 0.84121255  0.12465139  0.03413606]
iter 1584, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.26591608e-03   2.39975794e-04   9.94491828e-01   2.28062342e-06]
, probs: [ 0.84124695  0.1246301   0.03412295]
iter 1585, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.26591608e-03   2.39975794e-04   9.94491828e-01   2.28062342e-06]
, probs: [ 0.84128078  0.12460916  0.03411005]
iter 1586, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.18152638e-03   2.35289489e-04   9.94580966e-01   2.21843718e-06]
, probs: [ 0.84128078  0.12460916  0.03411005]
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iter 1587, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.09848493e-03   2.30694544e-04   9.94668663e-01   2.15794581e-06]
, probs: [ 0.84131407  0.12458856  0.03409737]
iter 1588, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.09848493e-03   2.30694544e-04   9.94668663e-01   2.15794581e-06]
, probs: [ 0.84134682  0.12456829  0.03408489]
iter 1589, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.01677031e-03   2.26189184e-04   9.94754941e-01   2.09910314e-06]
, probs: [ 0.84134682  0.12456829  0.03408489]
iter 1590, selected_arm: 0, reward_of_selected_arm: 0, weights: [
5.01677031e-03   2.26189184e-04   9.94754941e-01   2.09910314e-06]
, probs: [ 0.84137904  0.12454835  0.03407261]
iter 1591, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.93636147e-03   2.21771667e-04   9.94839825e-01   2.04186429e-06]
, probs: [ 0.84137904  0.12454835  0.03407261]
iter 1592, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.85723766e-03   2.17440285e-04   9.94923336e-01   1.98618556e-06]
, probs: [ 0.84141073  0.12452873  0.03406054]
iter 1593, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.85723766e-03   2.17440285e-04   9.94923336e-01   1.98618556e-06]
, probs: [ 0.84144191  0.12450942  0.03404866]
iter 1594, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.77937846e-03   2.13193364e-04   9.95005496e-01   1.93202445e-06]
, probs: [ 0.84144191  0.12450942  0.03404866]
iter 1595, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.70276378e-03   2.09029263e-04   9.95086328e-01   1.87933964e-06]
, probs: [ 0.84147259  0.12449043  0.03403698]
iter 1596, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.62737384e-03   2.04946369e-04   9.95165852e-01   1.82809091e-06]
, probs: [ 0.84150277  0.12447174  0.03402549]
iter 1597, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.55318916e-03   2.00943105e-04   9.95244089e-01   1.77823913e-06]
, probs: [ 0.84153245  0.12445336  0.03401419]
iter 1598, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.48019060e-03   1.97017921e-04   9.95321062e-01   1.72974626e-06]
, probs: [ 0.84156166  0.12443527  0.03400307]
iter 1599, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.48019060e-03   1.97017921e-04   9.95321062e-01   1.72974626e-06]
, probs: [ 0.8415904   0.12441747  0.03399213]
iter 1600, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.48019060e-03   1.97017921e-04   9.95321062e-01   1.72974626e-06]
, probs: [ 0.8415904   0.12441747  0.03399213]
iter 1601, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.40835928e-03   1.93169299e-04   9.95396789e-01   1.68257528e-06]
, probs: [ 0.8415904   0.12441747  0.03399213]
iter 1602, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.33767664e-03   1.89395749e-04   9.95471291e-01   1.63669017e-06]
, probs: [ 0.84161866  0.12439996  0.03398137]
iter 1603, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.33767664e-03   1.89395749e-04   9.95471291e-01   1.63669017e-06]
, probs: [ 0.84164647  0.12438274  0.03397079]
iter 1604, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.26812441e-03   1.85695810e-04   9.95544588e-01   1.59205591e-06]
, probs: [ 0.84164647  0.12438274  0.03397079]
iter 1605, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.19968460e-03   1.82068051e-04   9.95616699e-01   1.54863841e-06]
, probs: [ 0.84167383  0.12436579  0.03396038]
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iter 1606, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.13233952e-03   1.78511067e-04   9.95687643e-01   1.50640453e-06]
, probs: [ 0.84170074  0.12434911  0.03395015]
iter 1607, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.42929740e-03   1.88285981e-04   9.95380828e-01   1.58889227e-06]
, probs: [ 0.84172722  0.1243327   0.03394008]
iter 1608, selected_arm: 1, reward_of_selected_arm: 0, weights: [
4.42929740e-03   1.88285981e-04   9.95380828e-01   1.58889227e-06]
, probs: [ 0.84161319  0.12440397  0.03398284]
iter 1609, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.35827963e-03   1.84607847e-04   9.95455567e-01   1.54556206e-06]
, probs: [ 0.84161319  0.12440397  0.03398284]
iter 1610, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.28839761e-03   1.81001462e-04   9.95529098e-01   1.50341304e-06]
, probs: [ 0.84164108  0.12438668  0.03397224]
iter 1611, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.21963327e-03   1.77465431e-04   9.95601439e-01   1.46241304e-06]
, probs: [ 0.84166852  0.12436967  0.03396181]
iter 1612, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.21963327e-03   1.77465431e-04   9.95601439e-01   1.46241304e-06]
, probs: [ 0.84169551  0.12435293  0.03395156]
iter 1613, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.15196882e-03   1.73998385e-04   9.95672610e-01   1.42253074e-06]
, probs: [ 0.84169551  0.12435293  0.03395156]
iter 1614, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.08538677e-03   1.70598981e-04   9.95742631e-01   1.38373570e-06]
, probs: [ 0.84172206  0.12433647  0.03394147]
iter 1615, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.01986987e-03   1.67265903e-04   9.95811518e-01   1.34599829e-06]
, probs: [ 0.84174818  0.12432027  0.03393154]
iter 1616, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.95540118e-03   1.63997860e-04   9.95879292e-01   1.30928970e-06]
, probs: [ 0.84177388  0.12430433  0.03392178]
iter 1617, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.89196400e-03   1.60793586e-04   9.95945969e-01   1.27358190e-06]
, probs: [ 0.84179917  0.12428865  0.03391218]
iter 1618, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.17186311e-03   1.69605763e-04   9.95657188e-01   1.34337964e-06]
, probs: [ 0.84182404  0.12427323  0.03390274]
iter 1619, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.17186311e-03   1.69605763e-04   9.95657188e-01   1.34337964e-06]
, probs: [ 0.84171675  0.12434032  0.03394293]
iter 1620, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.17186311e-03   1.69605763e-04   9.95657188e-01   1.34337964e-06]
, probs: [ 0.84171675  0.12434032  0.03394293]
iter 1621, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.10496256e-03   1.66292196e-04   9.95727439e-01   1.30674327e-06]
, probs: [ 0.84171675  0.12434032  0.03394293]
iter 1622, selected_arm: 0, reward_of_selected_arm: 1, weights: [
4.03913225e-03   1.63043279e-04   9.95796553e-01   1.27110569e-06]
, probs: [ 0.84174295  0.12432406  0.03393299]
iter 1623, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.97435514e-03   1.59857754e-04   9.95864551e-01   1.23643966e-06]
, probs: [ 0.84176872  0.12430807  0.03392321]
iter 1624, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.91061446e-03   1.56734388e-04   9.95931448e-01   1.20271874e-06]
, probs: [ 0.84179408  0.12429233  0.03391359]
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iter 1625, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.84789371e-03   1.53671969e-04   9.95997264e-01   1.16991715e-06]
, probs: [ 0.84181903  0.12427685  0.03390413]
iter 1626, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.78617665e-03   1.50669312e-04   9.96062016e-01   1.13800986e-06]
, probs: [ 0.84184357  0.12426161  0.03389482]
iter 1627, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.72544727e-03   1.47725254e-04   9.96125721e-01   1.10697249e-06]
, probs: [ 0.84186772  0.12424662  0.03388566]
iter 1628, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.66568986e-03   1.44838652e-04   9.96188395e-01   1.07678134e-06]
, probs: [ 0.84189147  0.12423188  0.03387665]
iter 1629, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.66568986e-03   1.44838652e-04   9.96188395e-01   1.07678134e-06]
, probs: [ 0.84191484  0.12421737  0.03386779]
iter 1630, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.60688891e-03   1.42008388e-04   9.96250055e-01   1.04741334e-06]
, probs: [ 0.84191484  0.12421737  0.03386779]
iter 1631, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.54902919e-03   1.39233366e-04   9.96310719e-01   1.01884608e-06]
, probs: [ 0.84193783  0.1242031   0.03385908]
iter 1632, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.80454329e-03   1.46873077e-04   9.96047509e-01   1.07474999e-06]
, probs: [ 0.84196044  0.12418905  0.0338505 ]
iter 1633, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.80454329e-03   1.46873077e-04   9.96047509e-01   1.07474999e-06]
, probs: [ 0.84186269  0.12425023  0.03388709]
iter 1634, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.80454329e-03   1.46873077e-04   9.96047509e-01   1.07474999e-06]
, probs: [ 0.84186269  0.12425023  0.03388709]
iter 1635, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.80454329e-03   1.46873077e-04   9.96047509e-01   1.07474999e-06]
, probs: [ 0.84186269  0.12425023  0.03388709]
iter 1636, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.74351978e-03   1.44003211e-04   9.96111432e-01   1.04543799e-06]
, probs: [ 0.84186269  0.12425023  0.03388709]
iter 1637, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.74351978e-03   1.44003211e-04   9.96111432e-01   1.04543799e-06]
, probs: [ 0.84188651  0.12423543  0.03387806]
iter 1638, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.74351978e-03   1.44003211e-04   9.96111432e-01   1.04543799e-06]
, probs: [ 0.84188651  0.12423543  0.03387806]
iter 1639, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.01287477e-03   1.51899441e-04   9.95834123e-01   1.10276323e-06]
, probs: [ 0.84188651  0.12423543  0.03387806]
iter 1640, selected_arm: 0, reward_of_selected_arm: 0, weights: [
4.01287477e-03   1.51899441e-04   9.95834123e-01   1.10276323e-06]
, probs: [ 0.84178353  0.12429989  0.03391658]
iter 1641, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.94851733e-03   1.48931599e-04   9.95901478e-01   1.07268813e-06]
, probs: [ 0.84178353  0.12429989  0.03391658]
iter 1642, selected_arm: 2, reward_of_selected_arm: 0, weights: [
3.94851733e-03   1.48931599e-04   9.95901478e-01   1.07268813e-06]
, probs: [ 0.84180864  0.12428429  0.03390708]
iter 1643, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.88518966e-03   1.46021669e-04   9.95967745e-01   1.04343297e-06]
, probs: [ 0.84180864  0.12428429  0.03390708]
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iter 1644, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.82287536e-03   1.43168524e-04   9.96032941e-01   1.01497540e-06]
, probs: [ 0.84183333  0.12426894  0.03389773]
iter 1645, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.76155827e-03   1.40371058e-04   9.96097083e-01   9.87293706e-07]
, probs: [ 0.84185763  0.12425384  0.03388853]
iter 1646, selected_arm: 1, reward_of_selected_arm: 1, weights: [
4.03219872e-03   1.48067735e-04   9.95818692e-01   1.04142794e-06]
, probs: [ 0.84188153  0.12423898  0.03387949]
iter 1647, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.96753189e-03   1.45174773e-04   9.95886280e-01   1.01302567e-06]
, probs: [ 0.84177817  0.12430371  0.03391813]
iter 1648, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.90389976e-03   1.42338262e-04   9.95952777e-01   9.85397723e-07]
, probs: [ 0.84180335  0.12428805  0.0339086 ]
iter 1649, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.84128585e-03   1.39557103e-04   9.96018199e-01   9.58523011e-07]
, probs: [ 0.84182812  0.12427264  0.03389923]
iter 1650, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.77967395e-03   1.36830217e-04   9.96082563e-01   9.32381007e-07]
, probs: [ 0.84185249  0.12425749  0.03389002]
iter 1651, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.71904808e-03   1.34156549e-04   9.96145888e-01   9.06951745e-07]
, probs: [ 0.84187647  0.12424257  0.03388095]
iter 1652, selected_arm: 1, reward_of_selected_arm: 1, weights: [
3.98666829e-03   1.41513635e-04   9.95870861e-01   9.56688580e-07]
, probs: [ 0.84190006  0.1242279   0.03387204]
iter 1653, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.92272976e-03   1.38748673e-04   9.95937591e-01   9.30597154e-07]
, probs: [ 0.84179797  0.12429186  0.03391017]
iter 1654, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.85981435e-03   1.36037665e-04   9.96003243e-01   9.05217068e-07]
, probs: [ 0.84182282  0.12427639  0.03390078]
iter 1655, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.79790574e-03   1.33379562e-04   9.96067834e-01   8.80528938e-07]
, probs: [ 0.84184727  0.12426118  0.03389155]
iter 1656, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.73698791e-03   1.30773333e-04   9.96131382e-01   8.56513909e-07]
, probs: [ 0.84187133  0.12424621  0.03388246]
iter 1657, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.67704506e-03   1.28217969e-04   9.96193904e-01   8.33153639e-07]
, probs: [ 0.841895    0.12423148  0.03387352]
iter 1658, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.61806166e-03   1.25712478e-04   9.96255415e-01   8.10430286e-07]
, probs: [ 0.84191828  0.12421699  0.03386473]
iter 1659, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.61806166e-03   1.25712478e-04   9.96255415e-01   8.10430286e-07]
, probs: [ 0.84194119  0.12420273  0.03385608]
iter 1660, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.56002243e-03   1.23255890e-04   9.96315933e-01   7.88326492e-07]
, probs: [ 0.84194119  0.12420273  0.03385608]
iter 1661, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.50291230e-03   1.20847251e-04   9.96375474e-01   7.66825374e-07]
, probs: [ 0.84196372  0.12418871  0.03384757]
iter 1662, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.50291230e-03   1.20847251e-04   9.96375474e-01   7.66825374e-07]
, probs: [ 0.84198589  0.12417491  0.0338392 ]
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iter 1663, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.44671647e-03   1.18485629e-04   9.96434052e-01   7.45910507e-07]
, probs: [ 0.84198589  0.12417491  0.0338392 ]
iter 1664, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.39142036e-03   1.16170107e-04   9.96491684e-01   7.25565915e-07]
, probs: [ 0.84200771  0.12416133  0.03383097]
iter 1665, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.33700963e-03   1.13899787e-04   9.96548385e-01   7.05776054e-07]
, probs: [ 0.84202917  0.12414797  0.03382287]
iter 1666, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.28347015e-03   1.11673788e-04   9.96604170e-01   6.86525808e-07]
, probs: [ 0.84205028  0.12413482  0.0338149 ]
iter 1667, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.23078803e-03   1.09491248e-04   9.96659053e-01   6.67800467e-07]
, probs: [ 0.84207105  0.12412189  0.03380706]
iter 1668, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.17894958e-03   1.07351318e-04   9.96713050e-01   6.49585727e-07]
, probs: [ 0.84209148  0.12410917  0.03379935]
iter 1669, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.12794136e-03   1.05253169e-04   9.96766174e-01   6.31867670e-07]
, probs: [ 0.84211158  0.12409665  0.03379177]
iter 1670, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.07775011e-03   1.03195987e-04   9.96818439e-01   6.14632758e-07]
, probs: [ 0.84213136  0.12408433  0.03378431]
iter 1671, selected_arm: 1, reward_of_selected_arm: 0, weights: [
3.07775011e-03   1.03195987e-04   9.96818439e-01   6.14632758e-07]
, probs: [ 0.84215082  0.12407221  0.03377697]
iter 1672, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.02836279e-03   1.01178972e-04   9.96869860e-01   5.97867823e-07]
, probs: [ 0.84215082  0.12407221  0.03377697]
iter 1673, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.97976658e-03   9.92013429e-05   9.96920451e-01   5.81560054e-07]
, probs: [ 0.84216996  0.12406029  0.03376975]
iter 1674, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.93194884e-03   9.72623311e-05   9.96970223e-01   5.65696989e-07]
, probs: [ 0.84218879  0.12404856  0.03376265]
iter 1675, selected_arm: 2, reward_of_selected_arm: 1, weights: [
3.39834572e-03   1.30732924e-04   9.96469995e-01   9.26395304e-07]
, probs: [ 0.84220732  0.12403702  0.03375566]
iter 1676, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.39834572e-03   1.30732924e-04   9.96469995e-01   9.26395304e-07]
, probs: [ 0.84201993  0.12415224  0.03382782]
iter 1677, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.39834572e-03   1.30732924e-04   9.96469995e-01   9.26395304e-07]
, probs: [ 0.84201993  0.12415224  0.03382782]
iter 1678, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.34382463e-03   1.28178026e-04   9.96527096e-01   9.01127897e-07]
, probs: [ 0.84201993  0.12415224  0.03382782]
iter 1679, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.29017654e-03   1.25673004e-04   9.96583274e-01   8.76549457e-07]
, probs: [ 0.84204121  0.12413902  0.03381976]
iter 1680, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.23738752e-03   1.23216886e-04   9.96638543e-01   8.52641207e-07]
, probs: [ 0.84206215  0.12412601  0.03381183]
iter 1681, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.18544386e-03   1.20808720e-04   9.96692918e-01   8.29384879e-07]
, probs: [ 0.84208275  0.12411321  0.03380403]
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iter 1682, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.18544386e-03   1.20808720e-04   9.96692918e-01   8.29384879e-07]
, probs: [ 0.84210302  0.12410062  0.03379636]
iter 1683, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.13433209e-03   1.18447570e-04   9.96746414e-01   8.06762707e-07]
, probs: [ 0.84210302  0.12410062  0.03379636]
iter 1684, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.08403892e-03   1.16132522e-04   9.96799044e-01   7.84757404e-07]
, probs: [ 0.84212296  0.12408823  0.03378881]
iter 1685, selected_arm: 0, reward_of_selected_arm: 1, weights: [
3.03455130e-03   1.13862675e-04   9.96850823e-01   7.63352158e-07]
, probs: [ 0.84214257  0.12407604  0.03378139]
iter 1686, selected_arm: 0, reward_of_selected_arm: 0, weights: [
3.03455130e-03   1.13862675e-04   9.96850823e-01   7.63352158e-07]
, probs: [ 0.84216186  0.12406405  0.03377408]
iter 1687, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.98585637e-03   1.11637151e-04   9.96901764e-01   7.42530612e-07]
, probs: [ 0.84216186  0.12406405  0.03377408]
iter 1688, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.93794148e-03   1.09455083e-04   9.96951881e-01   7.22276857e-07]
, probs: [ 0.84218085  0.12405225  0.0337669 ]
iter 1689, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.89079417e-03   1.07315626e-04   9.97001188e-01   7.02575415e-07]
, probs: [ 0.84219952  0.12404064  0.03375983]
iter 1690, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.84440220e-03   1.05217949e-04   9.97049696e-01   6.83411231e-07]
, probs: [ 0.8422179   0.12402922  0.03375288]
iter 1691, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.79875349e-03   1.03161237e-04   9.97097421e-01   6.64769659e-07]
, probs: [ 0.84223597  0.12401799  0.03374604]
iter 1692, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.75383619e-03   1.01144692e-04   9.97144372e-01   6.46636455e-07]
, probs: [ 0.84225375  0.12400693  0.03373932]
iter 1693, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.70963862e-03   9.91675298e-05   9.97190565e-01   6.28997759e-07]
, probs: [ 0.84227125  0.12399605  0.0337327 ]
iter 1694, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.70963862e-03   9.91675298e-05   9.97190565e-01   6.28997759e-07]
, probs: [ 0.84228846  0.12398535  0.03372619]
iter 1695, selected_arm: 1, reward_of_selected_arm: 0, weights: [
2.70963862e-03   9.91675298e-05   9.97190565e-01   6.28997759e-07]
, probs: [ 0.84228846  0.12398535  0.03372619]
iter 1696, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.90523514e-03   1.04624605e-04   9.96989477e-01   6.63610785e-07]
, probs: [ 0.84228846  0.12398535  0.03372619]
iter 1697, selected_arm: 2, reward_of_selected_arm: 0, weights: [
2.90523514e-03   1.04624605e-04   9.96989477e-01   6.63610785e-07]
, probs: [ 0.8422138   0.12403211  0.03375409]
iter 1698, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.85861170e-03   1.02579538e-04   9.97038163e-01   6.45509470e-07]
, probs: [ 0.8422138   0.12403211  0.03375409]
iter 1699, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.85861170e-03   1.02579538e-04   9.97038163e-01   6.45509470e-07]
, probs: [ 0.84223194  0.12402083  0.03374723]
iter 1700, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.81273523e-03   1.00574407e-04   9.97086062e-01   6.27901782e-07]
, probs: [ 0.84223194  0.12402083  0.03374723]
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iter 1701, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.76759381e-03   9.86084360e-05   9.97133187e-01   6.10774264e-07]
, probs: [ 0.84224978  0.12400973  0.03374049]
iter 1702, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.72317569e-03   9.66808600e-05   9.97179549e-01   5.94113828e-07]
, probs: [ 0.84226733  0.12399881  0.03373386]
iter 1703, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.67946932e-03   9.47909309e-05   9.97225162e-01   5.77907740e-07]
, probs: [ 0.8422846   0.12398807  0.03372733]
iter 1704, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.63646334e-03   9.29379145e-05   9.97270037e-01   5.62143616e-07]
, probs: [ 0.84230159  0.1239775   0.03372092]
iter 1705, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.63646334e-03   9.29379145e-05   9.97270037e-01   5.62143616e-07]
, probs: [ 0.8423183  0.1239671  0.0337146]
iter 1706, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.82682264e-03   9.80535085e-05   9.97074531e-01   5.93085762e-07]
, probs: [ 0.8423183  0.1239671  0.0337146]
iter 1707, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.78145540e-03   9.61368221e-05   9.97121831e-01   5.76907959e-07]
, probs: [ 0.84224574  0.12401257  0.0337417 ]
iter 1708, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.78145540e-03   9.61368221e-05   9.97121831e-01   5.76907959e-07]
, probs: [ 0.84226335  0.1240016   0.03373505]
iter 1709, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.73681508e-03   9.42575684e-05   9.97168366e-01   5.61171338e-07]
, probs: [ 0.84226335  0.1240016   0.03373505]
iter 1710, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.69289006e-03   9.24150174e-05   9.97214149e-01   5.45863870e-07]
, probs: [ 0.84228068  0.12399082  0.03372851]
iter 1711, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.69289006e-03   9.24150174e-05   9.97214149e-01   5.45863870e-07]
, probs: [ 0.84229773  0.1239802   0.03372207]
iter 1712, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.69289006e-03   9.24150174e-05   9.97214149e-01   5.45863870e-07]
, probs: [ 0.84229773  0.1239802   0.03372207]
iter 1713, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.64966893e-03   9.06084535e-05   9.97259192e-01   5.30973858e-07]
, probs: [ 0.84229773  0.1239802   0.03372207]
iter 1714, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.60714043e-03   8.88371749e-05   9.97303506e-01   5.16489920e-07]
, probs: [ 0.8423145   0.12396976  0.03371574]
iter 1715, selected_arm: 1, reward_of_selected_arm: 0, weights: [
2.60714043e-03   8.88371749e-05   9.97303506e-01   5.16489920e-07]
, probs: [ 0.842331    0.12395949  0.03370952]
iter 1716, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.56529350e-03   8.71004936e-05   9.97347104e-01   5.02400987e-07]
, probs: [ 0.842331    0.12395949  0.03370952]
iter 1717, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.52411725e-03   8.53977347e-05   9.97389996e-01   4.88696289e-07]
, probs: [ 0.84234723  0.12394938  0.03370339]
iter 1718, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.48360096e-03   8.37282368e-05   9.97432195e-01   4.75365352e-07]
, probs: [ 0.8423632   0.12393944  0.03369737]
iter 1719, selected_arm: 1, reward_of_selected_arm: 0, weights: [
2.48360096e-03   8.37282368e-05   9.97432195e-01   4.75365352e-07]
, probs: [ 0.84237891  0.12392965  0.03369144]
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iter 1720, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.44373410e-03   8.20913509e-05   9.97473712e-01   4.62397986e-07]
, probs: [ 0.84237891  0.12392965  0.03369144]
iter 1721, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.40450627e-03   8.04864411e-05   9.97514558e-01   4.49784278e-07]
, probs: [ 0.84239436  0.12392003  0.03368561]
iter 1722, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.36590726e-03   7.89128835e-05   9.97554742e-01   4.37514586e-07]
, probs: [ 0.84240957  0.12391056  0.03367988]
iter 1723, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.32792703e-03   7.73700665e-05   9.97594277e-01   4.25579532e-07]
, probs: [ 0.84242453  0.12390124  0.03367423]
iter 1724, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.49617255e-03   8.16333012e-05   9.97421745e-01   4.49029756e-07]
, probs: [ 0.84243924  0.12389207  0.03366868]
iter 1725, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.49617255e-03   8.16333012e-05   9.97421745e-01   4.49029756e-07]
, probs: [ 0.84237523  0.12393221  0.03369256]
iter 1726, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.45610411e-03   8.00373773e-05   9.97463422e-01   4.36780809e-07]
, probs: [ 0.84237523  0.12393221  0.03369256]
iter 1727, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.41667792e-03   7.84726290e-05   9.97504425e-01   4.24865926e-07]
, probs: [ 0.84239074  0.12392255  0.03368671]
iter 1728, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.37788373e-03   7.69384481e-05   9.97544765e-01   4.13275999e-07]
, probs: [ 0.842406    0.12391304  0.03368096]
iter 1729, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.33971144e-03   7.54342385e-05   9.97584452e-01   4.02002170e-07]
, probs: [ 0.84242101  0.12390368  0.03367531]
iter 1730, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.33971144e-03   7.54342385e-05   9.97584452e-01   4.02002170e-07]
, probs: [ 0.84243578  0.12389448  0.03366974]
iter 1731, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.30215110e-03   7.39594154e-05   9.97623498e-01   3.91035818e-07]
, probs: [ 0.84243578  0.12389448  0.03366974]
iter 1732, selected_arm: 2, reward_of_selected_arm: 0, weights: [
2.30215110e-03   7.39594154e-05   9.97623498e-01   3.91035818e-07]
, probs: [ 0.84245031  0.12388542  0.03366427]
iter 1733, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.26519292e-03   7.25134054e-05   9.97661913e-01   3.80368563e-07]
, probs: [ 0.84245031  0.12388542  0.03366427]
iter 1734, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.22882729e-03   7.10956465e-05   9.97699707e-01   3.69992247e-07]
, probs: [ 0.84246461  0.12387651  0.03365888]
iter 1735, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.22882729e-03   7.10956465e-05   9.97699707e-01   3.69992247e-07]
, probs: [ 0.84247867  0.12386774  0.03365359]
iter 1736, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.19304472e-03   6.97055873e-05   9.97736890e-01   3.59898939e-07]
, probs: [ 0.84247867  0.12386774  0.03365359]
iter 1737, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.15783590e-03   6.83426875e-05   9.97773471e-01   3.50080922e-07]
, probs: [ 0.84249251  0.12385912  0.03364838]
iter 1738, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.12319163e-03   6.70064170e-05   9.97809461e-01   3.40530690e-07]
, probs: [ 0.84250612  0.12385063  0.03364325]
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iter 1739, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.08910291e-03   6.56962562e-05   9.97844870e-01   3.31240941e-07]
, probs: [ 0.84251951  0.12384228  0.03363821]
iter 1740, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.05556083e-03   6.44116955e-05   9.97879705e-01   3.22204572e-07]
, probs: [ 0.84253268  0.12383407  0.03363325]
iter 1741, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.05556083e-03   6.44116955e-05   9.97879705e-01   3.22204572e-07]
, probs: [ 0.84254564  0.12382599  0.03362837]
iter 1742, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.02255665e-03   6.31522354e-05   9.97913978e-01   3.13414675e-07]
, probs: [ 0.84254564  0.12382599  0.03362837]
iter 1743, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.02255665e-03   6.31522354e-05   9.97913978e-01   3.13414675e-07]
, probs: [ 0.84255839  0.12381804  0.03362357]
iter 1744, selected_arm: 1, reward_of_selected_arm: 0, weights: [
2.02255665e-03   6.31522354e-05   9.97913978e-01   3.13414675e-07]
, probs: [ 0.84255839  0.12381804  0.03362357]
iter 1745, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.16887246e-03   6.66357059e-05   9.97764161e-01   3.30702595e-07]
, probs: [ 0.84255839  0.12381804  0.03362357]
iter 1746, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.13405117e-03   6.53328155e-05   9.97800294e-01   3.21681016e-07]
, probs: [ 0.84250282  0.1238529   0.03364427]
iter 1747, selected_arm: 1, reward_of_selected_arm: 1, weights: [
2.28837977e-03   6.89352097e-05   9.97642346e-01   3.39418226e-07]
, probs: [ 0.84251627  0.12384452  0.03363921]
iter 1748, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.25164227e-03   6.75874199e-05   9.97680440e-01   3.30159045e-07]
, probs: [ 0.84245769  0.12388128  0.03366103]
iter 1749, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.21549379e-03   6.62659626e-05   9.97717919e-01   3.21152401e-07]
, probs: [ 0.84247185  0.12387244  0.0336557 ]
iter 1750, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.17992491e-03   6.49703239e-05   9.97754792e-01   3.12391410e-07]
, probs: [ 0.84248579  0.12386374  0.03365046]
iter 1751, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.17992491e-03   6.49703239e-05   9.97754792e-01   3.12391410e-07]
, probs: [ 0.84249951  0.12385519  0.03364531]
iter 1752, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.17992491e-03   6.49703239e-05   9.97754792e-01   3.12391410e-07]
, probs: [ 0.84249951  0.12385519  0.03364531]
iter 1753, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.14492635e-03   6.37000001e-05   9.97791070e-01   3.03869372e-07]
, probs: [ 0.84249951  0.12385519  0.03364531]
iter 1754, selected_arm: 2, reward_of_selected_arm: 0, weights: [
2.14492635e-03   6.37000001e-05   9.97791070e-01   3.03869372e-07]
, probs: [ 0.842513    0.12384677  0.03364023]
iter 1755, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.11048900e-03   6.24544971e-05   9.97826761e-01   2.95579772e-07]
, probs: [ 0.842513    0.12384677  0.03364023]
iter 1756, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.11048900e-03   6.24544971e-05   9.97826761e-01   2.95579772e-07]
, probs: [ 0.84252627  0.12383848  0.03363525]
iter 1757, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.07660387e-03   6.12333305e-05   9.97861875e-01   2.87516273e-07]
, probs: [ 0.84252627  0.12383848  0.03363525]
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iter 1758, selected_arm: 0, reward_of_selected_arm: 0, weights: [
2.07660387e-03   6.12333305e-05   9.97861875e-01   2.87516273e-07]
, probs: [0.84253933 0.12383033 0.03363034]
iter 1759, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.04326214e-03   6.00360256e-05   9.97896422e-01   2.79672709e-07]
, probs: [0.84253933 0.12383033 0.03363034]
iter 1760, selected_arm: 0, reward_of_selected_arm: 1, weights: [
2.01045512e-03   5.88621164e-05   9.97930411e-01   2.72043082e-07]
, probs: [0.84255218 0.12382231 0.03362551]
iter 1761, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.97817423e-03   5.77111465e-05   9.97963850e-01   2.64621561e-07]
, probs: [0.84256482 0.12381442 0.03362076]
iter 1762, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.94641108e-03   5.65826681e-05   9.97996749e-01   2.57402469e-07]
, probs: [0.84257725 0.12380666 0.03361609]
iter 1763, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.91515737e-03   5.54762421e-05   9.98029116e-01   2.50380286e-07]
, probs: [0.84258948 0.12379902 0.03361149]
iter 1764, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.88440495e-03   5.43914382e-05   9.98060960e-01   2.43549644e-07]
, probs: [0.84260152 0.12379151 0.03360697]
iter 1765, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.85414580e-03   5.33278342e-05   9.98092289e-01   2.36905319e-07]
, probs: [0.84261336 0.12378412 0.03360252]
iter 1766, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.82437202e-03   5.22850164e-05   9.98123113e-01   2.30442230e-07]
, probs: [0.84262501 0.12377685 0.03359815]
iter 1767, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.79507585e-03   5.12625788e-05   9.98153437e-01   2.24155435e-07]
, probs: [0.84263647 0.12376969 0.03359384]
iter 1768, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.76624963e-03   5.02601236e-05   9.98183272e-01   2.18040127e-07]
, probs: [0.84264774 0.12376265 0.03358961]
iter 1769, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.73788585e-03   4.92772608e-05   9.98212625e-01   2.12091628e-07]
, probs: [0.84265883 0.12375572 0.03358545]
iter 1770, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.70997710e-03   4.83136077e-05   9.98241503e-01   2.06305390e-07]
, probs: [0.84266975 0.12374891 0.03358135]
iter 1771, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.68251610e-03   4.73687893e-05   9.98269914e-01   2.00676987e-07]
, probs: [0.84268048 0.1237422   0.03357732]
iter 1772, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.68251610e-03   4.73687893e-05   9.98269914e-01   2.00676987e-07]
, probs: [0.84269104 0.1237356   0.03357335]
iter 1773, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.68251610e-03   4.73687893e-05   9.98269914e-01   2.00676987e-07]
, probs: [0.84269104 0.1237356   0.03357335]
iter 1774, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.65549568e-03   4.64424378e-05   9.98297867e-01   1.95202116e-07]
, probs: [0.84269104 0.1237356   0.03357335]
iter 1775, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.62890878e-03   4.55341927e-05   9.98325367e-01   1.89876589e-07]
, probs: [0.84270143 0.12372911 0.03356945]
iter 1776, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.74689289e-03   4.80492603e-05   9.98204857e-01   2.00364366e-07]
, probs: [0.84271166 0.12372273 0.03356562]

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iter 1777, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.71883961e-03   4.71096243e-05   9.98233856e-01   1.94898075e-07]
, probs: [ 0.84266698  0.12375079  0.03358223]
iter 1778, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.71883961e-03   4.71096243e-05   9.98233856e-01   1.94898075e-07]
, probs: [ 0.84267776  0.12374406  0.03357818]
iter 1779, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.69123640e-03   4.61883534e-05   9.98262386e-01   1.89580891e-07]
, probs: [ 0.84267776  0.12374406  0.03357818]
iter 1780, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.66407604e-03   4.52850892e-05   9.98290454e-01   1.84408749e-07]
, probs: [ 0.84268836  0.12373743  0.03357421]
iter 1781, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.63735145e-03   4.43994800e-05   9.98318070e-01   1.79377693e-07]
, probs: [ 0.84269879  0.12373091  0.03357029]
iter 1782, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.61105564e-03   4.35311810e-05   9.98345239e-01   1.74483875e-07]
, probs: [ 0.84270906  0.1237245   0.03356644]
iter 1783, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.61105564e-03   4.35311810e-05   9.98345239e-01   1.74483875e-07]
, probs: [ 0.84271915  0.12371819  0.03356266]
iter 1784, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.58518175e-03   4.26798542e-05   9.98371969e-01   1.69723554e-07]
, probs: [ 0.84271915  0.12371819  0.03356266]
iter 1785, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.55972303e-03   4.18451682e-05   9.98398267e-01   1.65093087e-07]
, probs: [ 0.84272909  0.12371198  0.03355893]
iter 1786, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.55972303e-03   4.18451682e-05   9.98398267e-01   1.65093087e-07]
, probs: [ 0.84273886  0.12370587  0.03355527]
iter 1787, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.53467281e-03   4.10267980e-05   9.98424140e-01   1.60588933e-07]
, probs: [ 0.84273886  0.12370587  0.03355527]
iter 1788, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51002457e-03   4.02244249e-05   9.98449595e-01   1.56207648e-07]
, probs: [ 0.84274848  0.12369986  0.03355166]
iter 1789, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.61943853e-03   4.24471188e-05   9.98337950e-01   1.64839264e-07]
, probs: [ 0.84275793  0.12369395  0.03354812]
iter 1790, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.59343011e-03   4.16169949e-05   9.98364793e-01   1.60342074e-07]
, probs: [ 0.84271656  0.12371995  0.03356349]
iter 1791, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.56783901e-03   4.08030972e-05   9.98391202e-01   1.55967560e-07]
, probs: [ 0.84272653  0.12371372  0.03355976]
iter 1792, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54265855e-03   4.00051089e-05   9.98417185e-01   1.51712378e-07]
, probs: [ 0.84273634  0.12370758  0.03355608]
iter 1793, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51788214e-03   3.92227193e-05   9.98442748e-01   1.47573273e-07]
, probs: [ 0.84274599  0.12370154  0.03355246]
iter 1794, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.49350331e-03   3.84556237e-05   9.98467898e-01   1.43547078e-07]
, probs: [ 0.84275549  0.1236956   0.0335489 ]
iter 1795, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.46951570e-03   3.77035234e-05   9.98492641e-01   1.39630714e-07]
, probs: [ 0.84276484  0.12368976  0.0335454 ]
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iter 1796, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.44591304e-03   3.69661256e-05   9.98516985e-01   1.35821187e-07]
, probs: [ 0.84277403  0.12368401  0.03354196]
iter 1797, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.42268916e-03   3.62431430e-05   9.98540936e-01   1.32115581e-07]
, probs: [ 0.84278307  0.12367836  0.03353857]
iter 1798, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39983799e-03   3.55342941e-05   9.98564499e-01   1.28511063e-07]
, probs: [ 0.84279197  0.12367279  0.03353524]
iter 1799, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.39983799e-03   3.55342941e-05   9.98564499e-01   1.28511063e-07]
, probs: [ 0.84280072  0.12366731  0.03353196]
iter 1800, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37735356e-03   3.48393029e-05   9.98587682e-01   1.25004876e-07]
, probs: [ 0.84280072  0.12366731  0.03353196]
iter 1801, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.35523000e-03   3.41578986e-05   9.98610491e-01   1.21594337e-07]
, probs: [ 0.84280933  0.12366193  0.03352874]
iter 1802, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.33346152e-03   3.34898158e-05   9.98632930e-01   1.18276838e-07]
, probs: [ 0.84281781  0.12365663  0.03352557]
iter 1803, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.43013528e-03   3.53414933e-05   9.98534398e-01   1.24816454e-07]
, probs: [ 0.84282614  0.12365141  0.03352245]
iter 1804, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.40716460e-03   3.46502807e-05   9.98558064e-01   1.21411082e-07]
, probs: [ 0.84278963  0.12367437  0.033536  ]
iter 1805, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.40716460e-03   3.46502807e-05   9.98558064e-01   1.21411082e-07]
, probs: [ 0.84279842  0.12366887  0.03353271]
iter 1806, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.50915863e-03   3.65656454e-05   9.98454148e-01   1.28122327e-07]
, probs: [ 0.84279842  0.12366887  0.03353271]
iter 1807, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.48491976e-03   3.58505122e-05   9.98479105e-01   1.24626800e-07]
, probs: [ 0.84275992  0.12369308  0.033547  ]
iter 1808, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.59252396e-03   3.78317032e-05   9.98369513e-01   1.31513996e-07]
, probs: [ 0.84276919  0.12368728  0.03354353]
iter 1809, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.56694733e-03   3.70918324e-05   9.98395833e-01   1.27925978e-07]
, probs: [ 0.84272858  0.12371282  0.0335586 ]
iter 1810, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54178111e-03   3.63664241e-05   9.98421728e-01   1.24435837e-07]
, probs: [ 0.84273836  0.1237067   0.03355494]
iter 1811, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.54178111e-03   3.63664241e-05   9.98421728e-01   1.24435837e-07]
, probs: [ 0.84274797  0.12370068  0.03355135]
iter 1812, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51701872e-03   3.56551957e-05   9.98447205e-01   1.21040904e-07]
, probs: [ 0.84274797  0.12370068  0.03355135]
iter 1813, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.49265369e-03   3.49578703e-05   9.98472271e-01   1.17738580e-07]
, probs: [ 0.84275743  0.12369476  0.03354781]
iter 1814, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.60081602e-03   3.68896863e-05   9.98362170e-01   1.24244963e-07]
, probs: [ 0.84276674  0.12368893  0.03354433]
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iter 1815, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.57510632e-03   3.61682404e-05   9.98388605e-01   1.20855266e-07]
, probs: [ 0.84272595  0.12371459  0.03355946]
iter 1816, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54980916e-03   3.54608967e-05   9.98414612e-01   1.17558035e-07]
, probs: [ 0.84273577  0.12370844  0.03355579]
iter 1817, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.52491793e-03   3.47673797e-05   9.98440200e-01   1.14350749e-07]
, probs: [ 0.84274542  0.12370239  0.03355218]
iter 1818, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.52491793e-03   3.47673797e-05   9.98440200e-01   1.14350749e-07]
, probs: [ 0.84275492  0.12369644  0.03354864]
iter 1819, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.52491793e-03   3.47673797e-05   9.98440200e-01   1.14350749e-07]
, probs: [ 0.84275492  0.12369644  0.03354864]
iter 1820, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.50042612e-03   3.40874195e-05   9.98465375e-01   1.11230954e-07]
, probs: [ 0.84275492  0.12369644  0.03354864]
iter 1821, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.60914932e-03   3.59710888e-05   9.98354762e-01   1.17377572e-07]
, probs: [ 0.84276427  0.12369059  0.03354514]
iter 1822, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.58330589e-03   3.52676096e-05   9.98381312e-01   1.14175236e-07]
, probs: [ 0.8427233   0.12371637  0.03356033]
iter 1823, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.55787714e-03   3.45778814e-05   9.98407434e-01   1.11060256e-07]
, probs: [ 0.84273315  0.1237102   0.03355665]
iter 1824, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.53285642e-03   3.39016355e-05   9.98433134e-01   1.08030249e-07]
, probs: [ 0.84274285  0.12370412  0.03355303]
iter 1825, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.64391870e-03   3.57748371e-05   9.98320192e-01   1.13999354e-07]
, probs: [ 0.84275239  0.12369814  0.03354947]
iter 1826, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.61751736e-03   3.50752050e-05   9.98347297e-01   1.10889200e-07]
, probs: [ 0.84271056  0.12372447  0.03356497]
iter 1827, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.59153964e-03   3.43892483e-05   9.98373963e-01   1.07863886e-07]
, probs: [ 0.84272062  0.12371817  0.03356122]
iter 1828, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.56597875e-03   3.37167000e-05   9.98400200e-01   1.04921098e-07]
, probs: [ 0.84273051  0.12371196  0.03355752]
iter 1829, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.54082802e-03   3.30572981e-05   9.98426013e-01   1.02058585e-07]
, probs: [ 0.84274025  0.12370586  0.03355389]
iter 1830, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.51608086e-03   3.24107860e-05   9.98451409e-01   9.92741595e-08]
, probs: [ 0.84274983  0.12369986  0.03355032]
iter 1831, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.51608086e-03   3.24107860e-05   9.98451409e-01   9.92741595e-08]
, probs: [ 0.84275925  0.12369395  0.0335468 ]
iter 1832, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.49173083e-03   3.17769119e-05   9.98476396e-01   9.65656902e-08]
, probs: [ 0.84275925  0.12369395  0.0335468 ]
iter 1833, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.46777156e-03   3.11554290e-05   9.98500979e-01   9.39311059e-08]
, probs: [ 0.84276852  0.12368814  0.03354334]
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iter 1834, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.44419679e-03   3.05460953e-05   9.98525166e-01   9.13683916e-08]
, probs: [ 0.84277765  0.12368242  0.03353994]
iter 1835, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.42100035e-03   2.99486733e-05   9.98548962e-01   8.88755869e-08]
, probs: [ 0.84278662  0.12367679  0.03353659]
iter 1836, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.39817619e-03   2.93629306e-05   9.98572374e-01   8.64507853e-08]
, probs: [ 0.84279545  0.12367125  0.03353329]
iter 1837, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.39817619e-03   2.93629306e-05   9.98572374e-01   8.64507853e-08]
, probs: [ 0.84280414  0.12366581  0.03353005]
iter 1838, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.37571834e-03   2.87886389e-05   9.98595409e-01   8.40921319e-08]
, probs: [ 0.84280414  0.12366581  0.03353005]
iter 1839, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.35362093e-03   2.82255746e-05   9.98618072e-01   8.17978226e-08]
, probs: [ 0.84281269  0.12366045  0.03352687]
iter 1840, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.45175143e-03   2.97861045e-05   9.98518376e-01   8.63202443e-08]
, probs: [ 0.84282109  0.12365518  0.03352373]
iter 1841, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.42843373e-03   2.92035480e-05   9.98542279e-01   8.39651706e-08]
, probs: [ 0.84278418  0.12367842  0.0335374 ]
iter 1842, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.40549026e-03   2.86323800e-05   9.98565796e-01   8.16743424e-08]
, probs: [ 0.84279305  0.12367286  0.03353409]
iter 1843, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.38291501e-03   2.80723780e-05   9.98588933e-01   7.94460077e-08]
, probs: [ 0.84280177  0.12366739  0.03353084]
iter 1844, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.38291501e-03   2.80723780e-05   9.98588933e-01   7.94460077e-08]
, probs: [ 0.84281036  0.123662    0.03352764]
iter 1845, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.36070208e-03   2.75233240e-05   9.98611697e-01   7.72784618e-08]
, probs: [ 0.84281036  0.123662    0.03352764]
iter 1846, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.33884567e-03   2.69850041e-05   9.98634094e-01   7.51700468e-08]
, probs: [ 0.8428188   0.12365671  0.03352449]
iter 1847, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.31734007e-03   2.64572086e-05   9.98656130e-01   7.31191499e-08]
, probs: [ 0.84282711  0.12365149  0.0335214 ]
iter 1848, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.29617964e-03   2.59397319e-05   9.98677809e-01   7.11242023e-08]
, probs: [ 0.84283528  0.12364637  0.03351835]
iter 1849, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.29617964e-03   2.59397319e-05   9.98677809e-01   7.11242023e-08]
, probs: [ 0.84284333  0.12364132  0.03351535]
iter 1850, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.27535887e-03   2.54323724e-05   9.98699140e-01   6.91836778e-08]
, probs: [ 0.84284333  0.12364132  0.03351535]
iter 1851, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.25487230e-03   2.49349324e-05   9.98720125e-01   6.72960921e-08]
, probs: [ 0.84285124  0.12363636  0.0335124 ]
iter 1852, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.23471458e-03   2.44472182e-05   9.98740773e-01   6.54600012e-08]
, probs: [ 0.84285902  0.12363147  0.0335095 ]
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iter 1853, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.21488044e-03   2.39690397e-05   9.98761087e-01   6.36740005e-08]
, probs: [ 0.84286668  0.12362667  0.03350665]
iter 1854, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.21488044e-03   2.39690397e-05   9.98761087e-01   6.36740005e-08]
, probs: [ 0.84287422  0.12362194  0.03350384]
iter 1855, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.21488044e-03   2.39690397e-05   9.98761087e-01   6.36740005e-08]
, probs: [ 0.84287422  0.12362194  0.03350384]
iter 1856, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.21488044e-03   2.39690397e-05   9.98761087e-01   6.36740005e-08]
, probs: [ 0.84287422  0.12362194  0.03350384]
iter 1857, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.19536469e-03   2.35002107e-05   9.98781073e-01   6.19367238e-08]
, probs: [ 0.84287422  0.12362194  0.03350384]
iter 1858, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.17616223e-03   2.30405484e-05   9.98800737e-01   6.02468420e-08]
, probs: [ 0.84288163  0.12361729  0.03350108]
iter 1859, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.17616223e-03   2.30405484e-05   9.98800737e-01   6.02468420e-08]
, probs: [ 0.84288892  0.12361271  0.03349836]
iter 1860, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.15726803e-03   2.25898737e-05   9.98820083e-01   5.86030624e-08]
, probs: [ 0.84288892  0.12361271  0.03349836]
iter 1861, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.13867715e-03   2.21480111e-05   9.98839118e-01   5.70041273e-08]
, probs: [ 0.8428961   0.12360821  0.03349569]
iter 1862, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.13867715e-03   2.21480111e-05   9.98839118e-01   5.70041273e-08]
, probs: [ 0.84290316  0.12360378  0.03349306]
iter 1863, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.12038474e-03   2.17147883e-05   9.98857845e-01   5.54488136e-08]
, probs: [ 0.84290316  0.12360378  0.03349306]
iter 1864, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.10238600e-03   2.12900365e-05   9.98876270e-01   5.39359315e-08]
, probs: [ 0.8429101   0.12359942  0.03349047]
iter 1865, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.08467622e-03   2.08735902e-05   9.98894398e-01   5.24643234e-08]
, probs: [ 0.84291694  0.12359513  0.03348793]
iter 1866, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.06725077e-03   2.04652871e-05   9.98912233e-01   5.10328635e-08]
, probs: [ 0.84292366  0.12359091  0.03348542]
iter 1867, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.14468957e-03   2.15978697e-05   9.98833659e-01   5.38571060e-08]
, probs: [ 0.84293028  0.12358676  0.03348296]
iter 1868, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.14468957e-03   2.15978697e-05   9.98833659e-01   5.38571060e-08]
, probs: [ 0.84290119  0.12360509  0.03349372]
iter 1869, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.14468957e-03   2.15978697e-05   9.98833659e-01   5.38571060e-08]
, probs: [ 0.84290119  0.12360509  0.03349372]
iter 1870, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.12630062e-03   2.11754087e-05   9.98852472e-01   5.23876575e-08]
, probs: [ 0.84290119  0.12360509  0.03349372]
iter 1871, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.12630062e-03   2.11754087e-05   9.98852472e-01   5.23876575e-08]
, probs: [ 0.84290817  0.12360071  0.03349112]
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iter 1872, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.10820689e-03   2.07612082e-05   9.98870981e-01   5.09582979e-08]
, probs: [ 0.84290817  0.12360071  0.03349112]
iter 1873, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.10820689e-03   2.07612082e-05   9.98870981e-01   5.09582979e-08]
, probs: [ 0.84291503  0.1235964   0.03348857]
iter 1874, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.09040365e-03   2.03551069e-05   9.98889192e-01   4.95679337e-08]
, probs: [ 0.84291503  0.1235964   0.03348857]
iter 1875, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.07288625e-03   1.99569465e-05   9.98907109e-01   4.82155012e-08]
, probs: [ 0.84292178  0.12359216  0.03348606]
iter 1876, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.05565009e-03   1.95665717e-05   9.98924736e-01   4.68999656e-08]
, probs: [ 0.84292843  0.12358799  0.03348358]
iter 1877, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.03869066e-03   1.91838305e-05   9.98942080e-01   4.56203206e-08]
, probs: [ 0.84293496  0.12358389  0.03348115]
iter 1878, selected_arm: 2, reward_of_selected_arm: 0, weights: [
1.03869066e-03   1.91838305e-05   9.98942080e-01   4.56203206e-08]
, probs: [ 0.8429414   0.12357985  0.03347876]
iter 1879, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.11406392e-03   2.02455996e-05   9.98865642e-01   4.81452725e-08]
, probs: [ 0.8429414   0.12357985  0.03347876]
iter 1880, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.09616664e-03   1.98495847e-05   9.98883937e-01   4.68316609e-08]
, probs: [ 0.8429131   0.12359768  0.03348922]
iter 1881, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.09616664e-03   1.98495847e-05   9.98883937e-01   4.68316609e-08]
, probs: [ 0.84291989  0.12359342  0.0334867 ]
iter 1882, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.17569668e-03   2.09479893e-05   9.98803306e-01   4.94231565e-08]
, probs: [ 0.84291989  0.12359342  0.0334867 ]
iter 1883, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.26097606e-03   2.21068655e-05   9.98716865e-01   5.21573243e-08]
, probs: [ 0.84289004  0.12361223  0.03349773]
iter 1884, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.24072032e-03   2.16744672e-05   9.98737554e-01   5.07342766e-08]
, probs: [ 0.84285805  0.12363239  0.03350956]
iter 1885, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.22078973e-03   2.12505231e-05   9.98757910e-01   4.93500508e-08]
, probs: [ 0.84286572  0.12362757  0.03350671]
iter 1886, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20117908e-03   2.08348680e-05   9.98777938e-01   4.80035882e-08]
, probs: [ 0.84287327  0.12362283  0.0335039 ]
iter 1887, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.20117908e-03   2.08348680e-05   9.98777938e-01   4.80035882e-08]
, probs: [ 0.84288069  0.12361817  0.03350114]
iter 1888, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.18188325e-03   2.04273400e-05   9.98797643e-01   4.66938586e-08]
, probs: [ 0.84288069  0.12361817  0.03350114]
iter 1889, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.16289717e-03   2.00277803e-05   9.98817030e-01   4.54198601e-08]
, probs: [ 0.842888    0.12361358  0.03349842]
iter 1890, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.16289717e-03   2.00277803e-05   9.98817030e-01   4.54198601e-08]
, probs: [ 0.84289518  0.12360906  0.03349575]
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iter 1891, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.14421589e-03   1.96360331e-05   9.98836104e-01   4.41806180e-08]
, probs: [ 0.84289518  0.12360906  0.03349575]
iter 1892, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.22721999e-03   2.07224473e-05   9.98752011e-01   4.66250247e-08]
, probs: [ 0.84290225  0.12360462  0.03349312]
iter 1893, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.20750610e-03   2.03171221e-05   9.98772131e-01   4.53529125e-08]
, probs: [ 0.84287113  0.12362424  0.03350462]
iter 1894, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.18810869e-03   1.99197220e-05   9.98791927e-01   4.41155049e-08]
, probs: [ 0.84287859  0.12361956  0.03350185]
iter 1895, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.16902266e-03   1.95300921e-05   9.98811404e-01   4.29118553e-08]
, probs: [ 0.84288593  0.12361494  0.03349913]
iter 1896, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.15024304e-03   1.91480806e-05   9.98830567e-01   4.17410429e-08]
, probs: [ 0.84289315  0.12361041  0.03349644]
iter 1897, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.13176490e-03   1.87735386e-05   9.98849421e-01   4.06021720e-08]
, probs: [ 0.84290025  0.12360594  0.0334938 ]
iter 1898, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.13176490e-03   1.87735386e-05   9.98849421e-01   4.06021720e-08]
, probs: [ 0.84290724  0.12360155  0.03349121]
iter 1899, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.11358342e-03   1.84063201e-05   9.98867971e-01   3.94943713e-08]
, probs: [ 0.84290724  0.12360155  0.03349121]
iter 1900, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.09569383e-03   1.80462821e-05   9.98886221e-01   3.84167933e-08]
, probs: [ 0.84291411  0.12359723  0.03348865]
iter 1901, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.17519002e-03   1.90449046e-05   9.98805725e-01   4.05426536e-08]
, probs: [ 0.84292088  0.12359298  0.03348614]
iter 1902, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.15631138e-03   1.86723842e-05   9.98824977e-01   3.94364837e-08]
, probs: [ 0.84289109  0.12361176  0.03349714]
iter 1903, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.15631138e-03   1.86723842e-05   9.98824977e-01   3.94364837e-08]
, probs: [ 0.84289823  0.12360728  0.03349449]
iter 1904, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.15631138e-03   1.86723842e-05   9.98824977e-01   3.94364837e-08]
, probs: [ 0.84289823  0.12360728  0.03349449]
iter 1905, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.13773581e-03   1.83071477e-05   9.98843919e-01   3.83604917e-08]
, probs: [ 0.84289823  0.12360728  0.03349449]
iter 1906, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.11945846e-03   1.79490528e-05   9.98862555e-01   3.73138544e-08]
, probs: [ 0.84290525  0.12360287  0.03349189]
iter 1907, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.10147454e-03   1.75979599e-05   9.98880891e-01   3.62957712e-08]
, probs: [ 0.84291215  0.12359852  0.03348932]
iter 1908, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.10147454e-03   1.75979599e-05   9.98880891e-01   3.62957712e-08]
, probs: [ 0.84291895  0.12359425  0.0334868 ]
iter 1909, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.10147454e-03   1.75979599e-05   9.98880891e-01   3.62957712e-08]
, probs: [ 0.84291895  0.12359425  0.0334868 ]
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iter 1910, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.08377936e-03   1.72537322e-05   9.98898932e-01   3.53054630e-08]
, probs: [ 0.84291895  0.12359425  0.0334868 ]
iter 1911, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.06636827e-03   1.69162356e-05   9.98916681e-01   3.43421724e-08]
, probs: [ 0.84292563  0.12359005  0.03348432]
iter 1912, selected_arm: 1, reward_of_selected_arm: 0, weights: [
1.06636827e-03   1.69162356e-05   9.98916681e-01   3.43421724e-08]
, probs: [ 0.84293221  0.12358591  0.03348188]
iter 1913, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.04923672e-03   1.65853384e-05   9.98934145e-01   3.34051622e-08]
, probs: [ 0.84293221  0.12358591  0.03348188]
iter 1914, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.03238024e-03   1.62609118e-05   9.98951326e-01   3.24937157e-08]
, probs: [ 0.84293868  0.12358185  0.03347947]
iter 1915, selected_arm: 0, reward_of_selected_arm: 1, weights: [
1.01579441e-03   1.59428292e-05   9.98968231e-01   3.16071355e-08]
, probs: [ 0.84294505  0.12357784  0.03347711]
iter 1916, selected_arm: 0, reward_of_selected_arm: 0, weights: [
1.01579441e-03   1.59428292e-05   9.98968231e-01   3.16071355e-08]
, probs: [ 0.84295131  0.1235739   0.03347478]
iter 1917, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.99474883e-04   1.56309668e-05   9.98984863e-01   3.07447432e-08]
, probs: [ 0.84295131  0.1235739   0.03347478]
iter 1918, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.83417397e-04   1.53252029e-05   9.99001227e-01   2.99058791e-08]
, probs: [ 0.84295747  0.12357003  0.0334725 ]
iter 1919, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.67617746e-04   1.50254183e-05   9.99017328e-01   2.90899014e-08]
, probs: [ 0.84296354  0.12356622  0.03347025]
iter 1920, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.52071795e-04   1.47314962e-05   9.99033168e-01   2.82961856e-08]
, probs: [ 0.8429695   0.12356247  0.03346803]
iter 1921, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.36775475e-04   1.44433220e-05   9.99048754e-01   2.75241246e-08]
, probs: [ 0.84297537  0.12355877  0.03346585]
iter 1922, selected_arm: 1, reward_of_selected_arm: 1, weights: [
1.00477497e-03   1.52429989e-05   9.98979953e-01   2.90480404e-08]
, probs: [ 0.84298115  0.12355514  0.03346371]
iter 1923, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.88632373e-04   1.49448247e-05   9.98996395e-01   2.82554710e-08]
, probs: [ 0.84295569  0.1235712   0.03347311]
iter 1924, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.72748980e-04   1.46524815e-05   9.99012571e-01   2.74845250e-08]
, probs: [ 0.84296179  0.12356737  0.03347085]
iter 1925, selected_arm: 1, reward_of_selected_arm: 0, weights: [
9.72748980e-04   1.46524815e-05   9.99012571e-01   2.74845250e-08]
, probs: [ 0.84296778  0.1235636   0.03346862]
iter 1926, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.57120630e-04   1.43658551e-05   9.99028487e-01   2.67346123e-08]
, probs: [ 0.84296778  0.1235636   0.03346862]
iter 1927, selected_arm: 0, reward_of_selected_arm: 0, weights: [
9.57120630e-04   1.43658551e-05   9.99028487e-01   2.67346123e-08]
, probs: [ 0.84297367  0.12355989  0.03346644]
iter 1928, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.41743232e-04   1.40848340e-05   9.99044146e-01   2.60051593e-08]
, probs: [ 0.84297367  0.12355989  0.03346644]
```

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iter 1929, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.26612761e-04   1.38093085e-05   9.99059553e-01   2.52956078e-08]
, probs: [ 0.84297948  0.12355624  0.03346428]
iter 1930, selected_arm: 0, reward_of_selected_arm: 0, weights: [
9.26612761e-04   1.38093085e-05   9.99059553e-01   2.52956078e-08]
, probs: [ 0.84298518  0.12355265  0.03346217]
iter 1931, selected_arm: 0, reward_of_selected_arm: 1, weights: [
9.11725257e-04   1.35391713e-05   9.99074711e-01   2.46054149e-08]
, probs: [ 0.84298518  0.12355265  0.03346217]
iter 1932, selected_arm: 0, reward_of_selected_arm: 0, weights: [
9.11725257e-04   1.35391713e-05   9.99074711e-01   2.46054149e-08]
, probs: [ 0.8429908   0.12354912  0.03346008]
iter 1933, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.97076821e-04   1.32743170e-05   9.99089625e-01   2.39340525e-08]
, probs: [ 0.8429908   0.12354912  0.03346008]
iter 1934, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.82663618e-04   1.30146423e-05   9.99104298e-01   2.32810070e-08]
, probs: [ 0.84299632  0.12354564  0.03345803]
iter 1935, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.68481876e-04   1.27600460e-05   9.99118735e-01   2.26457787e-08]
, probs: [ 0.84300176  0.12354222  0.03345602]
iter 1936, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.54527880e-04   1.25104289e-05   9.99132940e-01   2.20278814e-08]
, probs: [ 0.84300711  0.12353886  0.03345403]
iter 1937, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.40797976e-04   1.22656935e-05   9.99146915e-01   2.14268425e-08]
, probs: [ 0.84301237  0.12353555  0.03345208]
iter 1938, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.27288570e-04   1.20257446e-05   9.99160665e-01   2.08422019e-08]
, probs: [ 0.84301755  0.12353229  0.03345016]
iter 1939, selected_arm: 1, reward_of_selected_arm: 1, weights: [
8.87360825e-04   1.26918155e-05   9.99099925e-01   2.19965907e-08]
, probs: [ 0.84302264  0.12352909  0.03344827]
iter 1940, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.73103646e-04   1.24435349e-05   9.99114431e-01   2.13964083e-08]
, probs: [ 0.84300017  0.12354326  0.03345656]
iter 1941, selected_arm: 0, reward_of_selected_arm: 0, weights: [
8.73103646e-04   1.24435349e-05   9.99114431e-01   2.13964083e-08]
, probs: [ 0.84300555  0.12353988  0.03345457]
iter 1942, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.59075424e-04   1.22001099e-05   9.99128704e-01   2.08126009e-08]
, probs: [ 0.84300555  0.12353988  0.03345457]
iter 1943, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.45272486e-04   1.19614455e-05   9.99142746e-01   2.02447217e-08]
, probs: [ 0.84301083  0.12353656  0.03345261]
iter 1944, selected_arm: 0, reward_of_selected_arm: 0, weights: [
8.45272486e-04   1.19614455e-05   9.99142746e-01   2.02447217e-08]
, probs: [ 0.84301603  0.12353328  0.03345068]
iter 1945, selected_arm: 0, reward_of_selected_arm: 0, weights: [
8.45272486e-04   1.19614455e-05   9.99142746e-01   2.02447217e-08]
, probs: [ 0.84301603  0.12353328  0.03345068]
iter 1946, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.31691217e-04   1.17274488e-05   9.99156562e-01   1.96923361e-08]
, probs: [ 0.84301603  0.12353328  0.03345068]
iter 1947, selected_arm: 0, reward_of_selected_arm: 0, weights: [
8.31691217e-04   1.17274488e-05   9.99156562e-01   1.96923361e-08]
, probs: [ 0.84302115  0.12353006  0.03344879]
```

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iter 1948, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.18328061e-04   1.14980285e-05   9.99170155e-01   1.91550216e-08]
, probs: [ 0.84302115  0.12353006  0.03344879]
iter 1949, selected_arm: 0, reward_of_selected_arm: 1, weights: [
8.05179517e-04   1.12730952e-05   9.99183529e-01   1.86323669e-08]
, probs: [ 0.84302618  0.1235269   0.03344692]
iter 1950, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.92242143e-04   1.10525610e-05   9.99196687e-01   1.81239722e-08]
, probs: [ 0.84303114  0.12352378  0.03344508]
iter 1951, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.79512551e-04   1.08363401e-05   9.99209633e-01   1.76294484e-08]
, probs: [ 0.84303601  0.12352071  0.03344328]
iter 1952, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.66987405e-04   1.06243480e-05   9.99222371e-01   1.71484171e-08]
, probs: [ 0.84304081  0.12351769  0.0334415 ]
iter 1953, selected_arm: 0, reward_of_selected_arm: 0, weights: [
7.66987405e-04   1.06243480e-05   9.99222371e-01   1.71484171e-08]
, probs: [ 0.84304552  0.12351472  0.03343975]
iter 1954, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.54663426e-04   1.04165022e-05   9.99234903e-01   1.66805102e-08]
, probs: [ 0.84304552  0.12351472  0.03343975]
iter 1955, selected_arm: 0, reward_of_selected_arm: 0, weights: [
7.54663426e-04   1.04165022e-05   9.99234903e-01   1.66805102e-08]
, probs: [ 0.84305016  0.1235118   0.03343803]
iter 1956, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.42537384e-04   1.02127216e-05   9.99247234e-01   1.62253696e-08]
, probs: [ 0.84305016  0.1235118   0.03343803]
iter 1957, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.30606105e-04   1.00129266e-05   9.99259365e-01   1.57826472e-08]
, probs: [ 0.84305473  0.12350893  0.03343634]
iter 1958, selected_arm: 0, reward_of_selected_arm: 0, weights: [
7.30606105e-04   1.00129266e-05   9.99259365e-01   1.57826472e-08]
, probs: [ 0.84305922  0.1235061   0.03343468]
iter 1959, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.18866462e-04   9.81703942e-06   9.99271301e-01   1.53520040e-08]
, probs: [ 0.84305922  0.1235061   0.03343468]
iter 1960, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.07315379e-04   9.62498360e-06   9.99283045e-01   1.49331106e-08]
, probs: [ 0.84306364  0.12350332  0.03343304]
iter 1961, selected_arm: 0, reward_of_selected_arm: 0, weights: [
7.07315379e-04   9.62498360e-06   9.99283045e-01   1.49331106e-08]
, probs: [ 0.84306799  0.12350058  0.03343143]
iter 1962, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.95949831e-04   9.43668425e-06   9.99294599e-01   1.45256465e-08]
, probs: [ 0.84306799  0.12350058  0.03343143]
iter 1963, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.95949831e-04   9.43668425e-06   9.99294599e-01   1.45256465e-08]
, probs: [ 0.84307227  0.12349789  0.03342984]
iter 1964, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.84766839e-04   9.25206791e-06   9.99305967e-01   1.41292997e-08]
, probs: [ 0.84307227  0.12349789  0.03342984]
iter 1965, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.73763475e-04   9.07106257e-06   9.99317152e-01   1.37437670e-08]
, probs: [ 0.84307648  0.12349524  0.03342828]
iter 1966, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.73763475e-04   9.07106257e-06   9.99317152e-01   1.37437670e-08]
, probs: [ 0.84308062  0.12349263  0.03342675]
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iter 1967, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.62936854e-04   8.89359764e-06   9.99328156e-01   1.33687534e-08]
, probs: [ 0.84308062  0.12349263  0.03342675]
iter 1968, selected_arm: 1, reward_of_selected_arm: 0, weights: [
6.62936854e-04   8.89359764e-06   9.99328156e-01   1.33687534e-08]
, probs: [ 0.8430847   0.12349006  0.03342524]
iter 1969, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.52284140e-04   8.71960389e-06   9.99338983e-01   1.30039718e-08]
, probs: [ 0.8430847   0.12349006  0.03342524]
iter 1970, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.52284140e-04   8.71960389e-06   9.99338983e-01   1.30039718e-08]
, probs: [ 0.84308871  0.12348754  0.03342375]
iter 1971, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.41802541e-04   8.54901346e-06   9.99349636e-01   1.26491432e-08]
, probs: [ 0.84308871  0.12348754  0.03342375]
iter 1972, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.31489311e-04   8.38175979e-06   9.99360117e-01   1.23039960e-08]
, probs: [ 0.84309265  0.12348506  0.03342229]
iter 1973, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.31489311e-04   8.38175979e-06   9.99360117e-01   1.23039960e-08]
, probs: [ 0.84309653  0.12348261  0.03342085]
iter 1974, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.21341748e-04   8.21777765e-06   9.99370429e-01   1.19682661e-08]
, probs: [ 0.84309653  0.12348261  0.03342085]
iter 1975, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.11357191e-04   8.05700306e-06   9.99380574e-01   1.16416964e-08]
, probs: [ 0.84310035  0.12348021  0.03341944]
iter 1976, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.01533025e-04   7.89937330e-06   9.99390556e-01   1.13240372e-08]
, probs: [ 0.84310411  0.12347784  0.03341805]
iter 1977, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.01533025e-04   7.89937330e-06   9.99390556e-01   1.13240372e-08]
, probs: [ 0.84310781  0.12347552  0.03341668]
iter 1978, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.91866674e-04   7.74482689e-06   9.99400377e-01   1.10150454e-08]
, probs: [ 0.84310781  0.12347552  0.03341668]
iter 1979, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.82355605e-04   7.59330353e-06   9.99410040e-01   1.07144843e-08]
, probs: [ 0.84311144  0.12347323  0.03341533]
iter 1980, selected_arm: 0, reward_of_selected_arm: 1, weights: [
5.72997325e-04   7.44474410e-06   9.99419548e-01   1.04221241e-08]
, probs: [ 0.84311502  0.12347097  0.03341401]
iter 1981, selected_arm: 1, reward_of_selected_arm: 1, weights: [
6.14637195e-04   7.85744100e-06   9.99377494e-01   1.09998711e-08]
, probs: [ 0.84311854  0.12346876  0.0334127 ]
iter 1982, selected_arm: 1, reward_of_selected_arm: 1, weights: [
6.59297356e-04   8.29295475e-06   9.99332398e-01   1.16095600e-08]
, probs: [ 0.84310299  0.12347857  0.03341844]
iter 1983, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.59297356e-04   8.29295475e-06   9.99332398e-01   1.16095600e-08]
, probs: [ 0.84308631  0.1234891   0.03342458]
iter 1984, selected_arm: 1, reward_of_selected_arm: 1, weights: [
7.07196028e-04   8.75253880e-06   9.99284039e-01   1.22529458e-08]
, probs: [ 0.84308631  0.1234891   0.03342458]
iter 1985, selected_arm: 1, reward_of_selected_arm: 1, weights: [
7.58567066e-04   9.23751440e-06   9.99232182e-01   1.29318779e-08]
, probs: [ 0.84306843  0.12350039  0.03343117]
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iter 1986, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.46378317e-04   9.05679875e-06   9.99244552e-01   1.25790218e-08]
, probs: [ 0.84304926  0.1235125   0.03343824]
iter 1987, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.34385336e-04   8.87961767e-06   9.99256723e-01   1.22357930e-08]
, probs: [ 0.84305384  0.12350962  0.03343655]
iter 1988, selected_arm: 2, reward_of_selected_arm: 0, weights: [
7.34385336e-04   8.87961767e-06   9.99256723e-01   1.22357930e-08]
, probs: [ 0.84305834  0.12350678  0.03343488]
iter 1989, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.22584982e-04   8.70590205e-06   9.99268697e-01   1.19019290e-08]
, probs: [ 0.84305834  0.12350678  0.03343488]
iter 1990, selected_arm: 1, reward_of_selected_arm: 0, weights: [
7.22584982e-04   8.70590205e-06   9.99268697e-01   1.19019290e-08]
, probs: [ 0.84306277  0.12350399  0.03343324]
iter 1991, selected_arm: 0, reward_of_selected_arm: 1, weights: [
7.10974164e-04   8.53558414e-06   9.99280479e-01   1.15771741e-08]
, probs: [ 0.84306277  0.12350399  0.03343324]
iter 1992, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.99549839e-04   8.36859750e-06   9.99292070e-01   1.12612800e-08]
, probs: [ 0.84306714  0.12350124  0.03343162]
iter 1993, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.88309014e-04   8.20487701e-06   9.99303475e-01   1.09540048e-08]
, probs: [ 0.84307143  0.12349854  0.03343004]
iter 1994, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.88309014e-04   8.20487701e-06   9.99303475e-01   1.09540048e-08]
, probs: [ 0.84307565  0.12349588  0.03342848]
iter 1995, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.77248745e-04   8.04435882e-06   9.99314696e-01   1.06551135e-08]
, probs: [ 0.84307565  0.12349588  0.03342848]
iter 1996, selected_arm: 1, reward_of_selected_arm: 0, weights: [
6.77248745e-04   8.04435882e-06   9.99314696e-01   1.06551135e-08]
, probs: [ 0.8430798   0.12349326  0.03342694]
iter 1997, selected_arm: 2, reward_of_selected_arm: 0, weights: [
6.77248745e-04   8.04435882e-06   9.99314696e-01   1.06551135e-08]
, probs: [ 0.8430798   0.12349326  0.03342694]
iter 1998, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.66366133e-04   7.88698030e-06   9.99325737e-01   1.03643772e-08]
, probs: [ 0.8430798   0.12349326  0.03342694]
iter 1999, selected_arm: 0, reward_of_selected_arm: 1, weights: [
6.55658327e-04   7.73268007e-06   9.99336599e-01   1.00815735e-08]
, probs: [ 0.84308389  0.12349068  0.03342543]
iter 2000, selected_arm: 0, reward_of_selected_arm: 0, weights: [
6.55658327e-04   7.73268007e-06   9.99336599e-01   1.00815735e-08]
, probs: [ 0.84308791  0.12348815  0.03342394]
>>> MAB Exp4(gamma=0.1)
avg_reward: 0.734, best_selected: 0.7755, total_time: 265856.94 µs
, avg_time: 132.93 µs
```

```
arms = [
    arm.BernoulliArm(0.8),
    arm.BernoulliArm(0.6),
    arm.BernoulliArm(0.25)
]

advice:
[[ 0.49  0.36  0.15]
 [ 0.4   0.3   0.3 ]
 [ 0.9   0.1   0.  ]
 [ 0.2   0.3   0.5 ]]
algorithm: Exp4(gamma=0.1)
number of experts: 4

>>> MAB Exp4(gamma=0.1)
avg_reward: 0.7315, best_selected: 0.794, total_time: 216200.75 µs, a
vg_time: 108.10 µs
```

In [ ]: