```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

```
np.random.seed(0)
dice_rolls = np.random.choice([1, 2, 3, 4, 5, 6], size=1000000)
mean = np.mean(dice_rolls)
variance = np.var(dice_rolls)
print(f"Mean: {mean:.3f}, Variance: {variance:.3f}")
```

```
Mean: 3.499, Variance: 2.916
```

```
np.random.seed(0)
num_trials = 1000000
first_throw = np.random.choice([1, 2, 3, 4, 5, 6], size=num_trials)
second_throw = np.random.choice([1, 2, 3, 4, 5, 6], size=num_trials)
sums = first_throw + second_throw

plt.hist(sums, bins=range(2, 14), align='left', rwidth=0.8, density=True)
plt.xticks(range(2, 13, 2))
plt.xlabel('Sum of dice')
plt.ylabel('Probability')
plt.title('Histogram of sum')
plt.show()
```