NUMPY RANDOM DISTRIBUTION QUESTIONS WITH SOLUTIONS

1. Generate 100 random temperatures between 25C and 40C using uniform distribution

```
import numpy as np
temps = np.random.uniform(25, 40, 100)
print("Random temperatures:")
print(temps)
```

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2. Simulate 50 student marks with mean 60 and std 10 using normal distribution

```
import numpy as np
marks = np.random.normal(loc=60, scale=10, size=50)
print("Student marks:")
print(marks)
```

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3. Simulate 100 coin toss results using binomial distribution

```
import numpy as np
coin = np.random.binomial(n=1, p=0.5, size=100)
print("Coin toss results:")
print(coin)

print("Total heads:", np.sum(coin))
print("Total tails:", 100 - np.sum(coin))
```

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4. Generate number of customers visiting store per hour (Poisson distribution)

```
import numpy as np
customers = np.random.poisson(lam=20, size=24)
print("Customers per hour:")
print(customers)
```

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5. Generate 30 waiting times between customer arrivals (Exponential distribution)

```
import numpy as np
waiting = np.random.exponential(scale=5, size=30)
print("Waiting times:")
print(waiting)
```

IMPORTANT NOTES:
Uniform distribution → equal probability
Normal distribution → bell curve data like marks
Binomial distribution → yes/no, coin toss
Poisson distribution → number of events
Exponential distribution → waiting time between events