```
import matplotlib.pyplot as plt
import pymc3 as pm
import arviz as az

N = 10
k = 7

with pm. Model() as BinModel:
    theta = pm. Uniform('theta', lower = 0.0, upper = 1.0)
    k_obs = pm. Binomial('k_obs', n = N, p = theta, observed = k)
    trace = pm. sample(return_inferencedata = True)
    az. plot_trace(trace)
    plt. show()
    smry = pm. summary(trace)
    print(smry)
```

WARNING (theano.tensor.blas): Using NumPy C-API based implementation for BLAS functions

Auto-assigning NUTS sampler...

Initializing NUTS using jitter+adapt_diag...

Multiprocess sampling (4 chains in 4 jobs)

NUTS: [theta]

100.00% [8000/8000 00:05<00:00 Sampling

4 chains, 0 divergences]

Sampling 4 chains for 1_000 tune and 1_000 draw iterations $(4_000 + 4_000 \text{ draws tota})$ took 26 seconds.

