Sheet

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import numpy as np
from scipy.stats import norm

# define variables
r = 0.01      # risk free rate
S = 24.50        # Underlying
K = 25.50        # Strike price
T = 8/365   # Time
sigma = 0.3691  # Implied vol

def blackscholes(r, S, K, T, sigma, type="C"):
    "Calculate BS option price for a call/put"
    d1 = (np.log(S/K) + (r+ sigma**2/2)*T)/(sigma*np.sqrt(T))
    d2 = d1 - sigma*np.sqrt(T)
    try:
        if type == "C":
            price = S*norm.cdf(d1, 0, 1) - K*np.exp(-r*T)*norm.cdf(d2, 0, 1)
        elif type == "P":
            price = K*np.exp(-r*T)*norm.cdf(-d2, 0, 1) - S*norm.cdf(-d1, 0, 1)
        return price
    except:
        print("Please confirm all option parameters above!")

print("Option Price is: ", round(blackscholes(r, S, K, T, sigma, type="C"), 3) )
```

```
Option Price is:  0.186
```