*Underlying Price (S): The current market price of the asset.*

*#Strike Price (K): The predetermined price at which the option can be exercised.*

*#Time to Expiration (T): The time left (in years) until the option’s expiration date.*

*#Risk Free Rate (r): The constant rate of return on a risk-free asset, such as a government bond.*

*#Volatility (σ): A measure of how much the price of the underlying asset fluctuates.*

*import* math

*from* scipy.stats *import* norm

S = 30.47 *# Underlying Price*

K = 42.5 *# Strike Price*

T = 1 *# Time to Expiration in year*

r = 0.05 *# Risk-Free Rate*

vol = 0.4 *# Volatility (σ)*

d1 = (math.log(S/K) + (r + 0.5 \* vol\*\*2)\*T ) / (vol \* math.sqrt(T))

d2 = d1 - (vol \* math.sqrt(T))

C = S \* norm.cdf(d1) - K \* math.exp(-r \* T) \* norm.cdf(d2)

P = K \* math.exp(-r \* T) \* norm.cdf(-d2) - S \* norm.cdf(-d1)

print('The value of d1 is: ', round(d1, 4))

print('The value of d2 is: ', round(d2, 4))

print('The price of the call option is: $', round(C, 2))

print('The price of the put option is: $', round(P, 2))