# MA374 – Financial Engineering II

# LAB 02 Report

# -Aman Kumar (200123007)

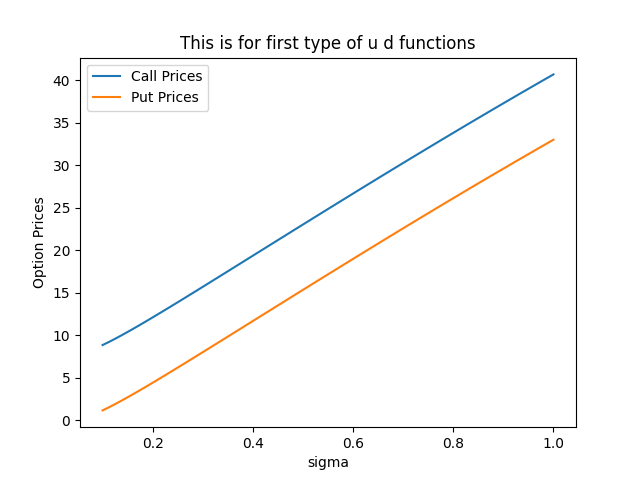
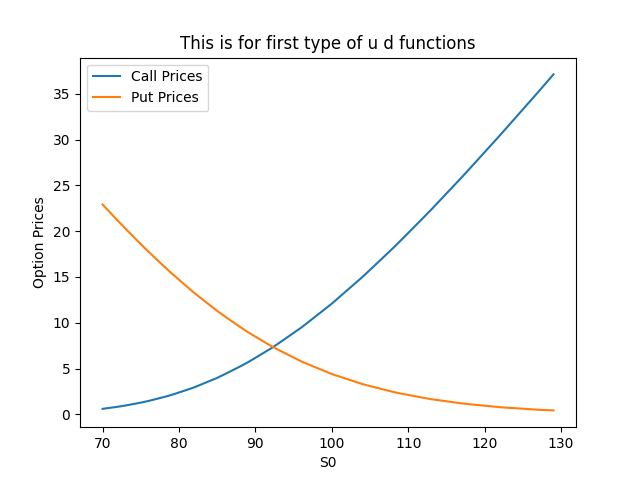
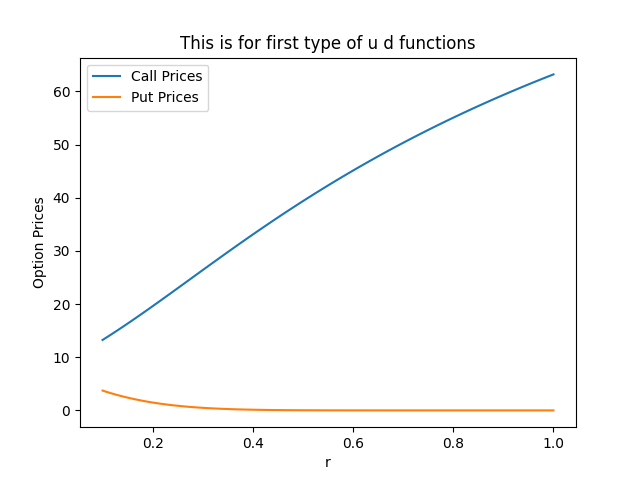
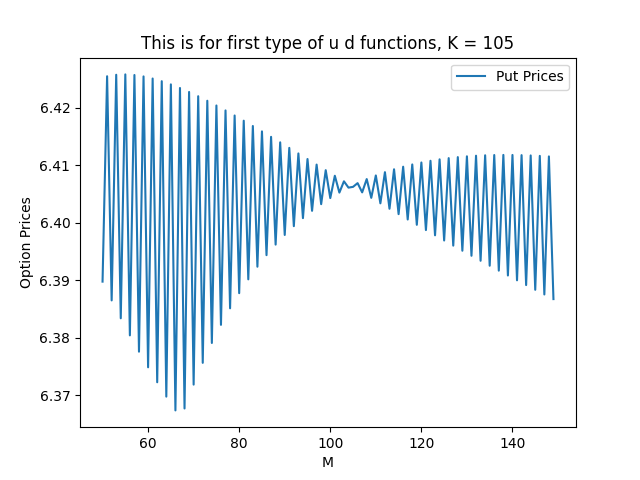
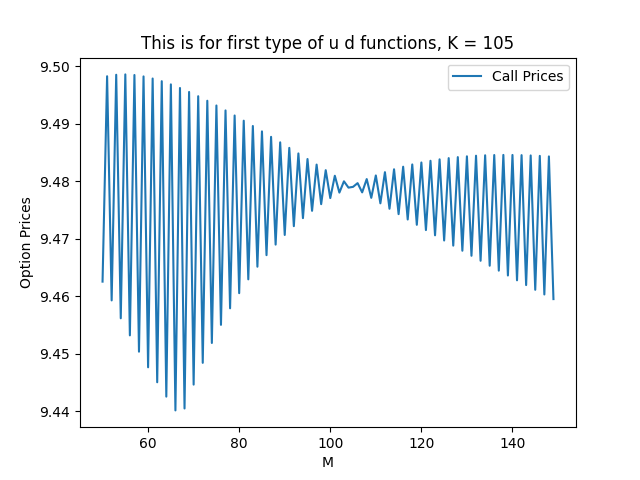
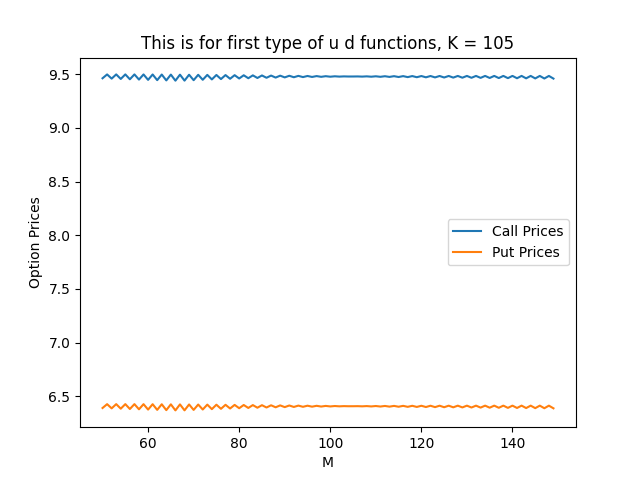
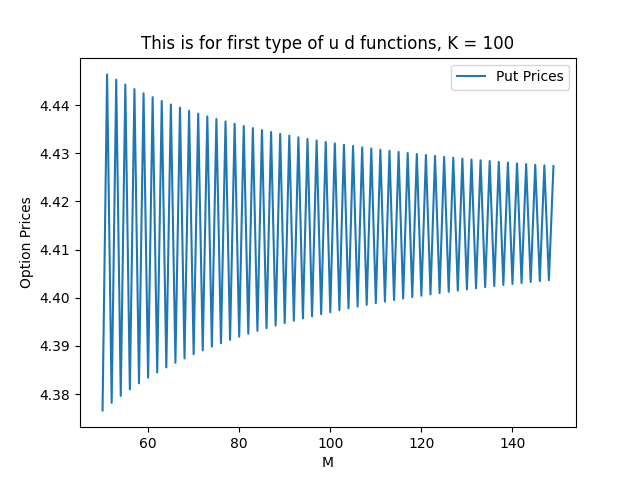
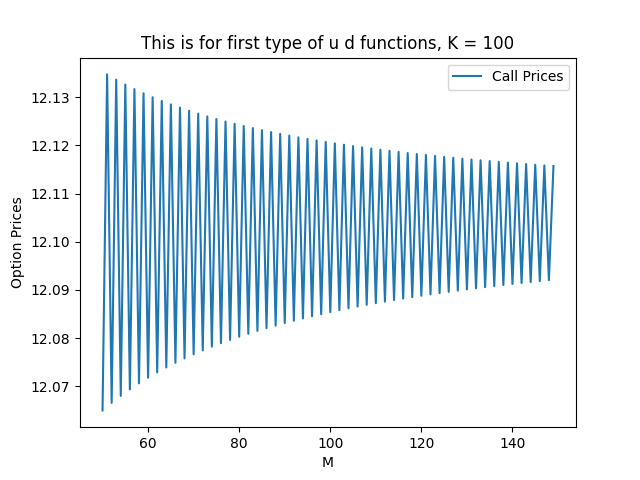
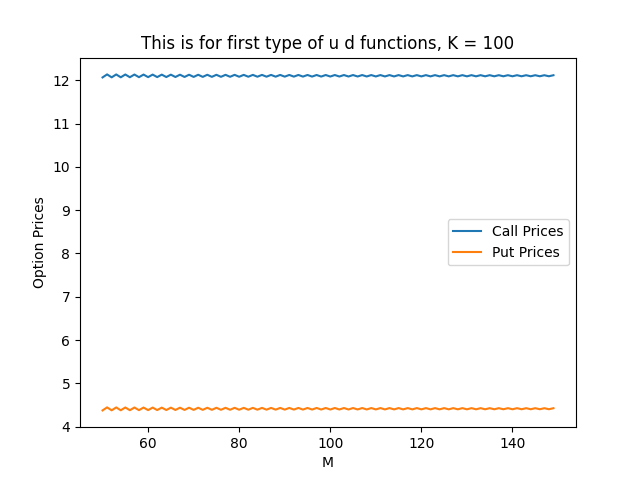
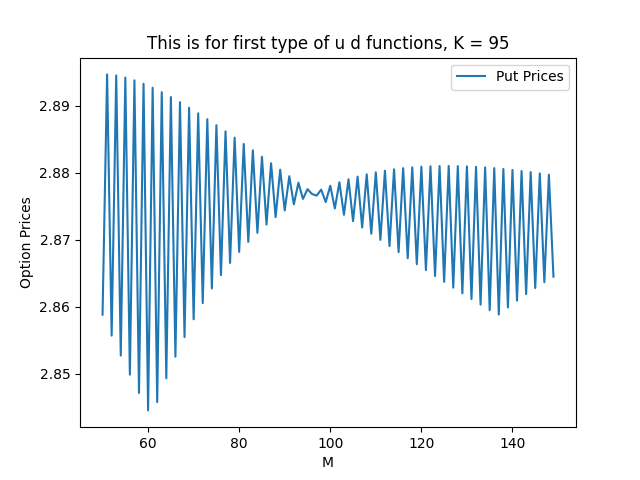
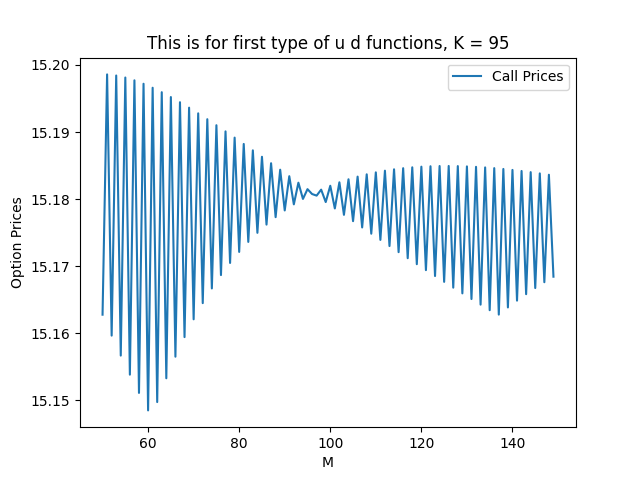
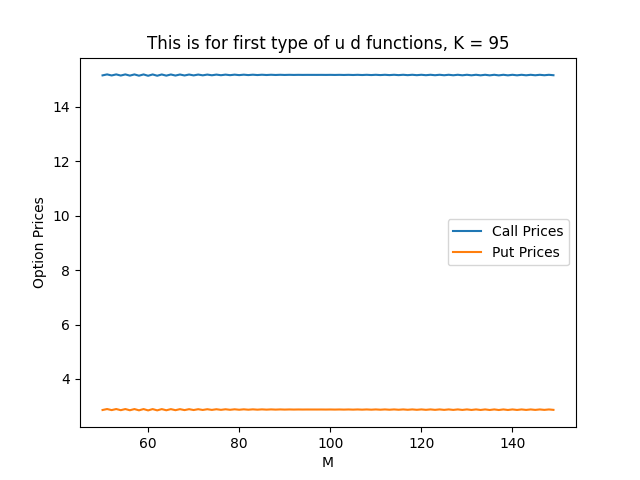
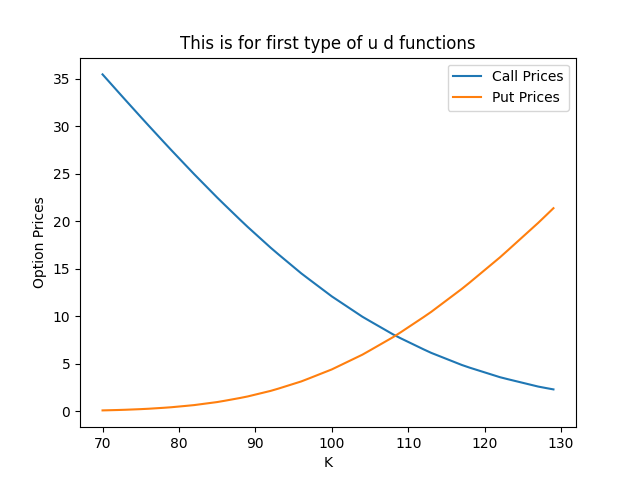
***Question 1***

Observations –

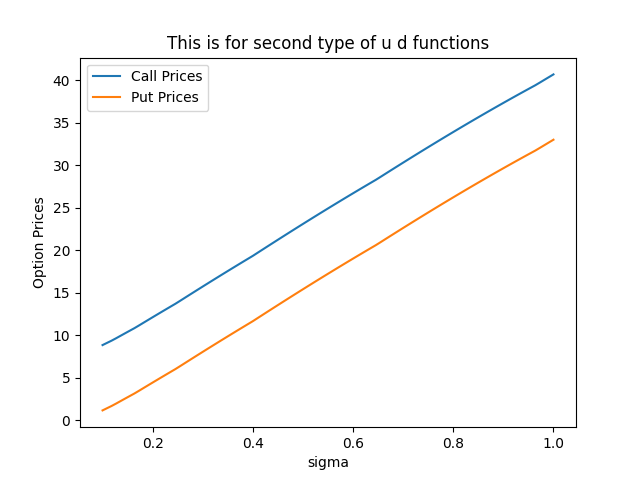
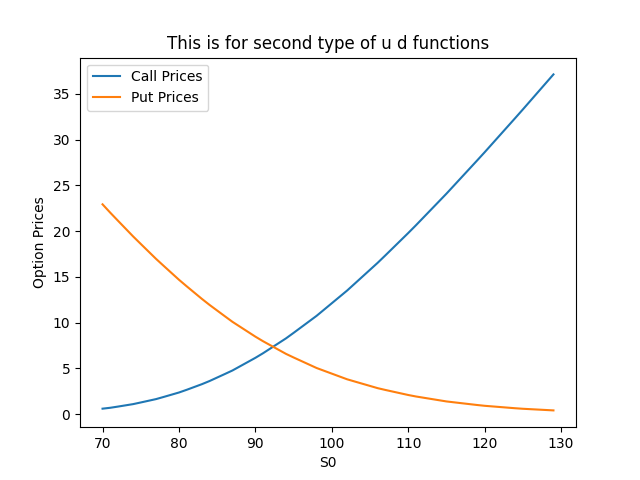
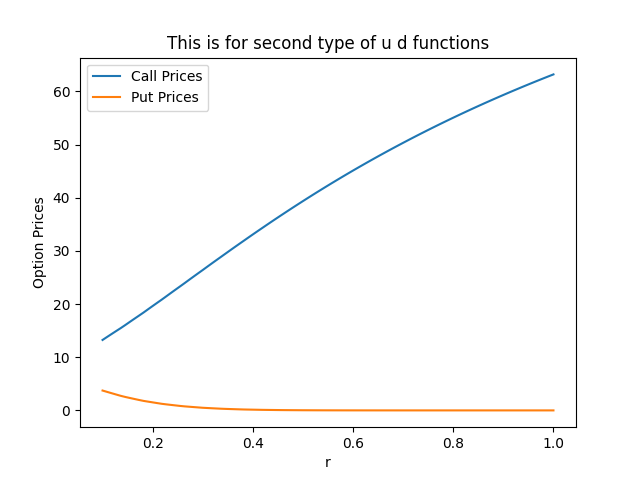
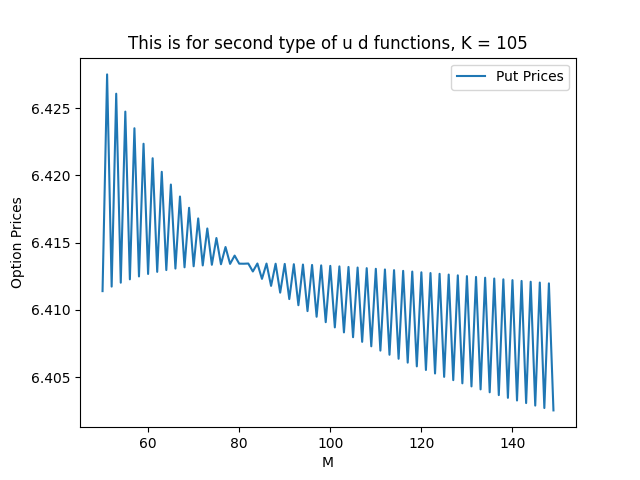
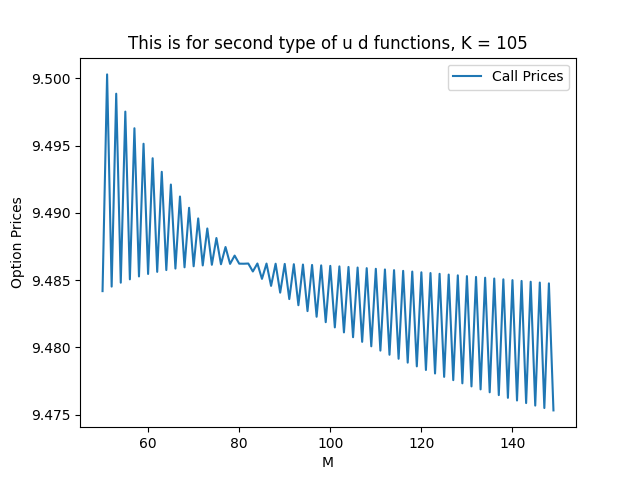
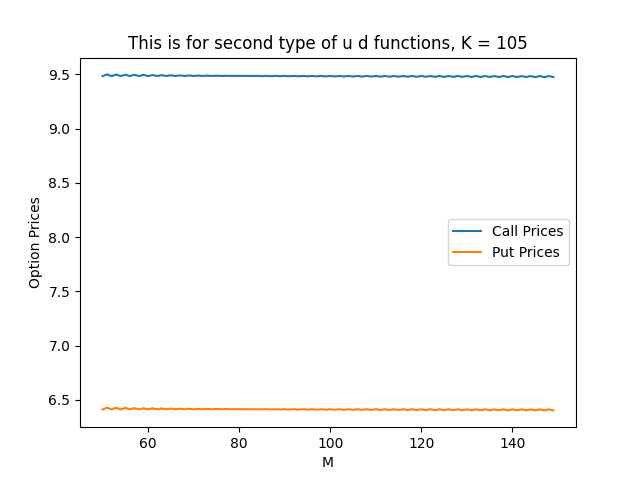
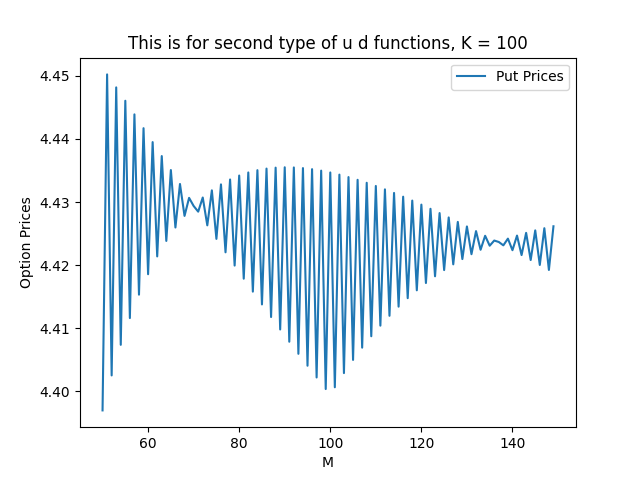
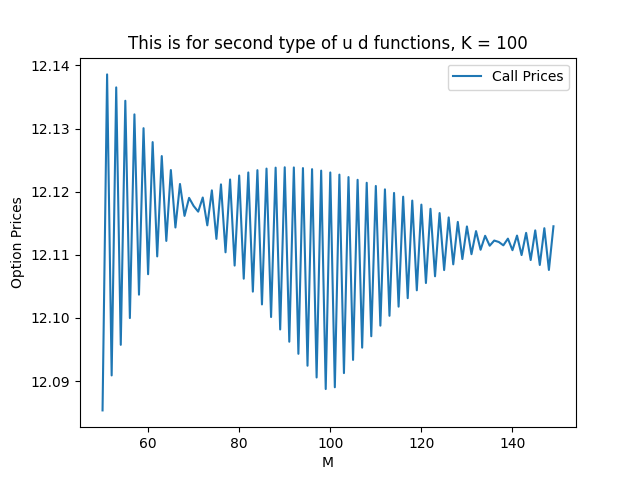
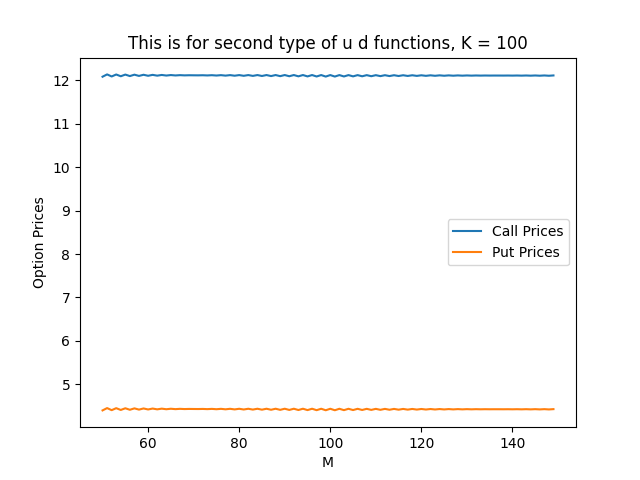
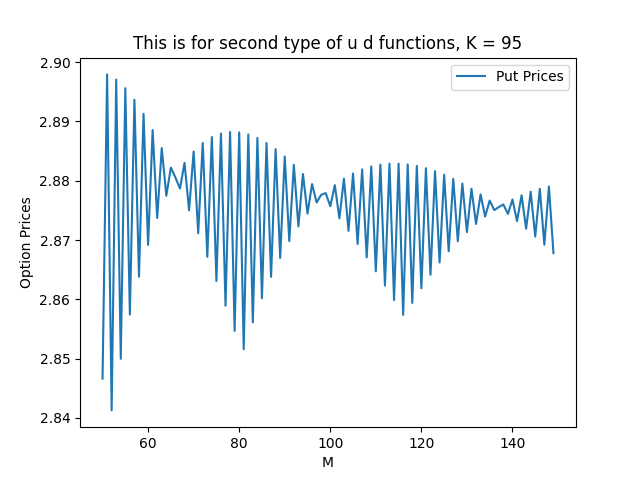
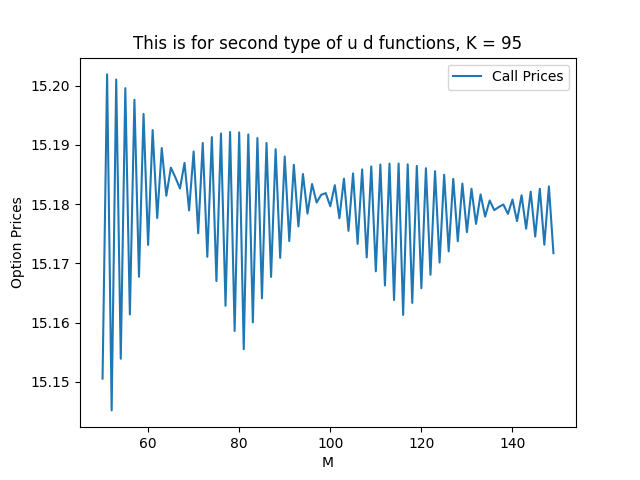
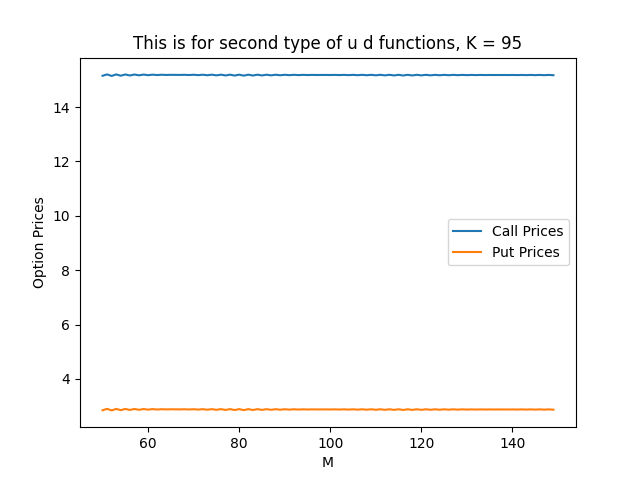
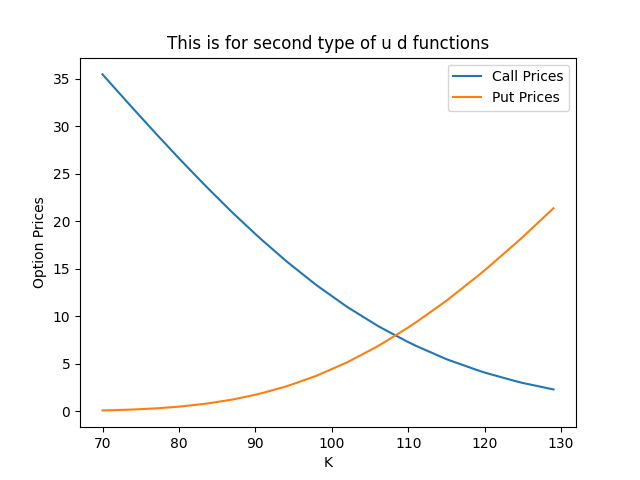
1. The call option becomes cheaper than the put after a certain value of K (approximately 108).
2. Call Prices is directly proportional to r and put is inversely proportional.
3. A linear relation can be seen with sigma and option prices.
4. Option Price vs S0 and Option Price vs K graphs look mirror image about 100 (the constant value of K in graph of S0 and the constant value of S0 in graph of K).
5. The graphs of M show oscillating pattern about some specific price.
6. The graph for both the sets is more or less similar expect the oscillating pattern seen in graphs of M.

Graphs –

For the first set of U and D –



For the second set of U and D –



***Question 2***

For a path dependent option, I’m using lookback option to do sensitivity analysis.

Observation –

1. The lookback option seems to costlier than the European options when we observe the graph of Prices vs K.
2. The option price vs K/S0/r/sigma shows similar observation like question 1.
3. For the variation of, since we didn’t have enough points to make a good observation we can’t comment on it.

