

Power Systems Economics: Homework #2

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2.5

Given: The demand curve for a product is estimated to be given by the expression:

$$q = 200 - \pi$$

A) Calculate the price and the price elasticity of the demand for the following values of the demand.

- i) Demand = 0
- i) Demand = 50
- i) Demand = 100
- i) Demand = 150
- i) Demand = 200

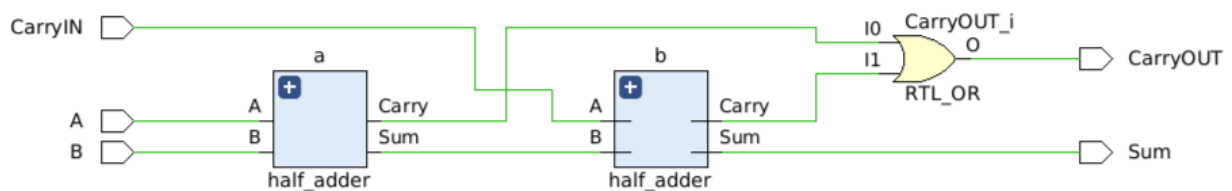
B) Repeat the calculations for the case in which the demand curve is given by the expression:

$$q = \frac{10,000}{\pi}$$

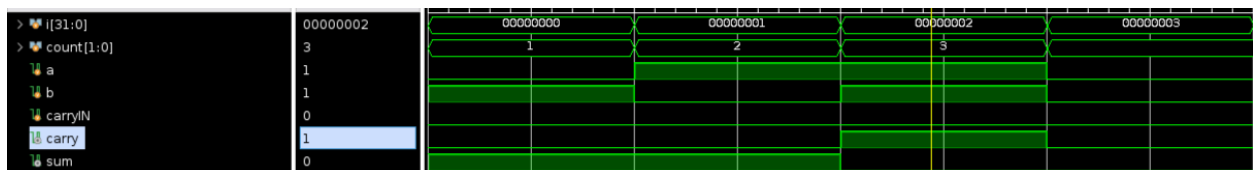
- i) Demand = 0
- i) Demand = 50
- i) Demand = 100
- i) Demand = 150
- i) Demand = 200

Python Script Output Verification

2.5A)



2.5B)



2.8

Given: A firm's short-run cost function for the production of gizmos is given by the following expression:

$$C(y) = 10 * y^2 + 200 * y + 100,000$$

A) Calculate the range of output over which it would be profitable for this firm to produce gizmos if it can sell each gizmo for \$2400. Calculate the value of the output that maximizes this profit.

B) Repeat these calculations and explain your results for the case in which the short-run cost function is given by

$$C(y) = 10 * y^2 + 200 * y + 200,000$$