

# bonus task

## formula derivation

profit=revenue-cost

revenue=price\*attendees

cost=fixedcost+variablecost\*attendees

attendees=venue\_capacity\*predictedenergy/100

assumption are

venue capacity is 800

fixed cost is 5000

variable cost is 8

optimization

here we have created the loop in which we are calculating profit using the formula and we appending it into our profit array then we are converting it into dataframe we are using the trained grid search model to find the predicted the energy

recommended price is 190 for v gamma venue  
using the visualisation we can understand the pattern that as the price increasing the  
profit is also increasing