# Split Test Analysis

## **Assumptions:**

1. Since issuing of the quotes is one of the revenue sources, I would ask if re-issuing of the same quote (a repeat quote) is a paid service or free. If repeat quotes are free, then it would be good to know how many repeat quotes were issued per each bucket in order to subtract them from the Quotes column and obtain cleaner results.

For simplicity of our calculations, I'll assume all quotes are paid the same.

2. To gauge performance of the split test, I introduced one more column to the output dataset called "Viewer Quotes Index" (VQI). It is a measure of quotes issued by an individual viewer per bucket during the tests. For our purposes VQI describes how many quotes are generated from the form views assuming:

A provider visits a quote-form and either sends a quote or leaves.

# Split Test:

### Formula:

```
Viewer Quotes Index =
   N of quotes / Views / 1 View per Visitor
```

## Output:

Bucket,Quotes,Views,"Viewer Quotes Index" Baseline,32,595, 0.054 Variation 1,30,599, 0.05 Variation 2,18,622, 0.029 Variation 3,51,606, 0.084 Variation 4,38,578, 0.066

Winner is Variation 3 Viewer Quotes Index = 0.084

### Source Code for the test:

```
# Roman Gekhman -
# Galvanize Coding Exercise #3 - 7/3/18
# roman.gekhman@gmail.com
#developed / tested on Python 3.6
import csv
#common vars
_strVQIdx = "'Viewer Quotes Index'"
_lstHeader = ["Bucket","Quotes","Views"]
with open("out_data.csv", 'w', newline='') as outfile:
       outWriter = csv.writer(outfile, delimiter=',')
       with open("in_data.csv", 'r') as infile:
              inReader = csv.reader(infile, delimiter=',')
              for line in inReader:
                     line = [x.strip(' ') for x in line]
                     if line == _lstHeader:
                            outfile.write("\nOutput: \n")
                            line.append(_strVQIdx)
                            outWriter.writerow(line)
                            continue
                     else:
                            try:
                                   _ratio = round(int(line[1])/int(line[2]), 3)
                                   print(line[0], int(line[1]), int(line[2]), _ratio)
                                   line.append(_ratio)
                                   outWriter.writerow(line)
                            except Exception as ex:
                                   print("Error in line : ", ex.args[0])
```

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## Input file:

Bucket, Quotes, Views Baseline,32,595 Variation 1,30,599 Variation 2,18,622 Variation 3,51,606 Variation 4,38,578

## Generated output:

#### Output:

Bucket, Quotes, Views, 'Viewer Quotes Index' Baseline,32,595,0.054 Variation 1,30,599,0.05 Variation 2,18,622,0.029 Variation 3,51,606,0.084 Variation 4,38,578,0.066