R Notebook

# Brief Text Description of Data

## The data contains 3168 observations of the following 9 variables:  
##   
## - Rating: n = 3168, Mean = 4.13, SD = 0.55, Median = , MAD = 0.44, range: [1, 5], Skewness = -1.60, Kurtosis = 4.12, 11.77% missing  
## - App: 2937 entries, such as Candy Crush Saga (0.22%); Helix Jump (0.19%); Subway Surfers (0.19%) and 2934 others (0 missing)  
## - Reviews: n = 3168, Mean = 3.78e+05, SD = 1.96e+06, Median = 1556.50, MAD = 2306.18, range: [0, 27725352], Skewness = 9.58, Kurtosis = 110.39, 0% missing  
## - Size: 293 entries, such as 13M (2.21%); 12M (2.08%); 19M (1.83%) and 290 others (0 missing)  
## - Installs: n = 3168, Mean = 1.25e+07, SD = 7.02e+07, Median = 1.00e+05, MAD = 1.48e+05, range: [0, 1e+09], Skewness = 10.88, Kurtosis = 134.98, 0% missing  
## - Type: 2 entries, such as Free (94.16%); Paid (5.84%); NA (0 missing)  
## - Price: n = 3168, Mean = 1.45, SD = 21.83, Median = 0.00, MAD = 0.00, range: [0, 400], Skewness = 17.71, Kurtosis = 314.60, 0% missing  
## - Content.Rating: 5 entries, such as Everyone (77.08%); Teen (14.61%); Everyone 10 (4.58%) and 2 others (0 missing)  
## - Genres: 10 entries, such as Tools (23.33%); Entertainment (16.95%); Lifestyle (10.86%) and 7 others (0 missing)

**Table** : Description of Numeric Variables

|  | Unique (#) | Missing (%) | Mean | SD | Min | Median | Max |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Rating | 39 | 12 | 4.1 | 0.5 | 1.0 | 4.2 | 5.0 |
| Reviews | 2022 | 0 | 377726.0 | 1959519.0 | 0.0 | 1556.5 | 27725352.0 |
| Installs | 20 | 0 | 12516730.8 | 70192980.8 | 0.0 | 100000.0 | 1000000000.0 |
| Price | 37 | 0 | 1.4 | 21.8 | 0.0 | 0.0 | 400.0 |

**Table** : Summary of Representation of Values in the Data

|  |  | Mean | Std. Dev. |
| --- | --- | --- | --- |
| Rating |  | 4.1 | 0.5 |
| Reviews |  | 377726.0 | 1959519.0 |
| Installs |  | 12516730.8 | 70192980.8 |
| Price |  | 1.4 | 21.8 |
|  |  | N | Pct. |
| Type | Free | 2983 | 94.2 |
|  | Paid | 185 | 5.8 |
| Content.Rating | Everyone | 2442 | 77.1 |
|  | Everyone 10 | 145 | 4.6 |
|  | Mature 17 | 116 | 3.7 |
|  | Teen | 463 | 14.6 |
|  | Unrated | 2 | 0.1 |
| Genres | Action | 327 | 10.3 |
|  | Arcade | 196 | 6.2 |
|  | Casual | 167 | 5.3 |
|  | Entertainment | 537 | 17.0 |
|  | Lifestyle | 344 | 10.9 |
|  | News & Magazines | 216 | 6.8 |
|  | Photography | 254 | 8.0 |
|  | Shopping | 201 | 6.3 |
|  | Simulation | 187 | 5.9 |
|  | Tools | 739 | 23.3 |

**Table** : Crosstab frequencies for Genres and Type (Free vs Paid)

|  |  | Free | Paid | All |
| --- | --- | --- | --- | --- |
| Action | N | 303 | 24 | 327 |
|  | % row | 92.7 | 7.3 | 100.0 |
| Arcade | N | 178 | 18 | 196 |
|  | % row | 90.8 | 9.2 | 100.0 |
| Casual | N | 158 | 9 | 167 |
|  | % row | 94.6 | 5.4 | 100.0 |
| Entertainment | N | 520 | 17 | 537 |
|  | % row | 96.8 | 3.2 | 100.0 |
| Lifestyle | N | 327 | 17 | 344 |
|  | % row | 95.1 | 4.9 | 100.0 |
| News & Magazines | N | 214 | 2 | 216 |
|  | % row | 99.1 | 0.9 | 100.0 |
| Photography | N | 235 | 19 | 254 |
|  | % row | 92.5 | 7.5 | 100.0 |
| Shopping | N | 199 | 2 | 201 |
|  | % row | 99.0 | 1.0 | 100.0 |
| Simulation | N | 179 | 8 | 187 |
|  | % row | 95.7 | 4.3 | 100.0 |
| Tools | N | 670 | 69 | 739 |
|  | % row | 90.7 | 9.3 | 100.0 |
| All | N | 2983 | 185 | 3168 |
|  | % row | 94.2 | 5.8 | 100.0 |

**Table** : Descriptive Values by Genres (using all apps)

| Genres |  | Mean | SD | Min | Median | Max |
| --- | --- | --- | --- | --- | --- | --- |
| Action | Rating | 4.26 | 0.29 | 3.10 | 4.30 | 5.00 |
|  | Installs | 22706235.60 | 70866515.06 | 10.00 | 1e+06 | 5e+08 |
|  | Price | 0.25 | 1.28 | 0.00 | 0.00 | 16.99 |
|  | Reviews | 774894.94 | 1732507.24 | 0 | 59017.00 | 10981850 |
| Arcade | Rating | 4.30 | 0.36 | 3.10 | 4.40 | 5.00 |
|  | Installs | 50184077.31 | 172806655.37 | 1.00 | 1e+06 | 1e+09 |
|  | Price | 0.24 | 1.40 | 0.00 | 0.00 | 17.99 |
|  | Reviews | 1521096.63 | 4894891.25 | 0 | 42879.00 | 27725352 |
| Casual | Rating | 4.14 | 0.44 | 2.40 | 4.30 | 5.00 |
|  | Installs | 45481920.54 | 124548905.71 | 10.00 | 5e+05 | 5e+08 |
|  | Price | 0.18 | 1.24 | 0.00 | 0.00 | 14.99 |
|  | Reviews | 2015815.74 | 5101469.52 | 0 | 11748.00 | 22430188 |
| Entertainment | Rating | 4.09 | 0.56 | 1.60 | 4.20 | 5.00 |
|  | Installs | 3420781.53 | 14628337.89 | 1.00 | 10000.00 | 1e+08 |
|  | Price | 3.09 | 34.26 | 0.00 | 0.00 | 399.99 |
|  | Reviews | 61133.80 | 253029.17 | 0 | 323.00 | 3213548 |
| Lifestyle | Rating | 4.09 | 0.72 | 1.50 | 4.20 | 5.00 |
|  | Installs | 1243665.23 | 6362952.21 | 0.00 | 10000.00 | 1e+08 |
|  | Price | 6.84 | 50.07 | 0.00 | 0.00 | 400.00 |
|  | Reviews | 24899.05 | 169701.68 | 0 | 134.50 | 2789775 |
| News & Magazines | Rating | 4.14 | 0.59 | 1.70 | 4.30 | 5.00 |
|  | Installs | 19685211.34 | 134998472.06 | 0.00 | 10000.00 | 1e+09 |
|  | Price | 0.02 | 0.21 | 0.00 | 0.00 | 2.99 |
|  | Reviews | 45593.78 | 137986.45 | 0 | 200.00 | 878065 |
| Photography | Rating | 4.15 | 0.51 | 2.00 | 4.30 | 5.00 |
|  | Installs | 10070463.21 | 23748787.56 | 5.00 | 1e+06 | 1e+08 |
|  | Price | 0.49 | 2.57 | 0.00 | 0.00 | 29.99 |
|  | Reviews | 302926.92 | 964187.97 | 0 | 20195.50 | 7594559 |
| Shopping | Rating | 4.23 | 0.44 | 1.60 | 4.30 | 5.00 |
|  | Installs | 7483824.80 | 20109657.74 | 5.00 | 1e+06 | 1e+08 |
|  | Price | 0.03 | 0.27 | 0.00 | 0.00 | 2.99 |
|  | Reviews | 233721.61 | 973681.39 | 0 | 10318.00 | 6212081 |
| Simulation | Rating | 4.14 | 0.41 | 2.90 | 4.20 | 5.00 |
|  | Installs | 3692389.41 | 9082684.70 | 10.00 | 5e+05 | 5e+07 |
|  | Price | 0.22 | 1.46 | 0.00 | 0.00 | 12.99 |
|  | Reviews | 149863.16 | 458404.21 | 1 | 6514.00 | 4218587 |
| Tools | Rating | 4.01 | 0.64 | 1.00 | 4.20 | 5.00 |
|  | Installs | 4772794.07 | 29091121.18 | 1.00 | 50000.00 | 5e+08 |
|  | Price | 0.32 | 1.53 | 0.00 | 0.00 | 25.99 |
|  | Reviews | 142463.94 | 1004547.21 | 0 | 313.00 | 13479633 |

## Warning: To compile a LaTeX document with this table, the following commands must be placed in the document preamble:  
##   
## \usepackage{booktabs}  
## \usepackage{siunitx}  
## \newcolumntype{d}{S[input-symbols = ()]}  
##   
## To disable `siunitx` and prevent `modelsummary` from wrapping numeric entries in `\num{}`, call:  
##   
## options("modelsummary\_format\_numeric\_latex" = "plain")  
## This warning appears once per session.

## Warning in !is.null(rmarkdown::metadata$output) && rmarkdown::metadata$output  
## %in% : 'length(x) = 3 > 1' in coercion to 'logical(1)'

**Table** : Mean Price by Genres (using only paid apps)

| Genres |  | mean | sd |
| --- | --- | --- | --- |
| Action | Installs | 710510.42 | 2023553.71 |
|  | Price | 3.47 | 3.42 |
| Arcade | Installs | 79845.17 | 232704.37 |
|  | Price | 2.66 | 3.96 |
| Casual | Installs | 3574.44 | 4835.06 |
|  | Price | 3.32 | 4.47 |
| Entertainment | Installs | 8068.88 | 24004.55 |
|  | Price | 97.56 | 171.85 |
| Lifestyle | Installs | 68712.35 | 241125.54 |
|  | Price | 138.43 | 185.44 |
| News & Magazines | Installs | 2750.00 | 3181.98 |
|  | Price | 1.99 | 1.41 |
| Photography | Installs | 196249.47 | 375534.06 |
|  | Price | 6.54 | 7.14 |
| Shopping | Installs | 5050.00 | 7000.36 |
|  | Price | 2.74 | 0.35 |
| Simulation | Installs | 16900.00 | 33785.33 |
|  | Price | 5.24 | 5.15 |
| Tools | Installs | 6468.71 | 17647.02 |
|  | Price | 3.43 | 3.83 |