Financial Analysis

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06/06/2021

```
#Data----
revenue <- c(14574.49, 7606.46, 8611.41, 9175.41, 8058.65, 8105.44, 11496.28, 9766.09, 10305.32, 14379.9
expenses <- c(12051.82, 5695.07, 12319.20, 12089.72, 8658.57, 840.20, 3285.73, 5821.12, 6976.93, 16618.6

# Question----
# Find the:

# 1) Profit for each month
# 2) Profit after tax for each month (30% tax rate)
# 3) Profit margin for each month - equals to profit after tax divided by revenue
# 4) Good months - where the profit after tax was greater than the mean for the year
# 5) Bad months - where the profit after tax was less than the mean for the year
# 6) The best month - where the profit after tax was max for the year
# 7) The worst month - where the profit after tax was min for the year

# Stipulations:

#1) All results need to be presented as vectors
#2) Results for dollar values need to be calculated with $0.01 precision, but need to be
#   presented in units of $1000 with no decimal points.
#3) Results for the profit margin ratio need to be presented in units of % with no decimal
#   points.


# Profit for each month----

profit <- round(revenue - expenses, digits=2)
print(as.integer(profit))
```

```
##  [1]  2522  1911 -3707 -2914  -599  7265  8210  3944  3328 -2238   659 11629
```

```
# Profit after tax for each month (30% tax rate)----

taxedprofit <- round(profit * 0.7,digits=2)
print(as.integer(taxedprofit))
```

```
##  [1]  1765  1337 -2595 -2040  -419  5085  5747  2761  2329 -1567   461  8140
```

```
# Profit margin for each month - equals to profit after tax divided by revenue----
```

```r
profitmargin <- round((taxedprofit/revenue)*100,digits=2)
print(as.integer(profitmargin))
```

```
##  [1]  12  17 -30 -22  -5  62  49  28  22 -10   4  52
```

```r
# Good months - where the profit after tax was greater than the mean for the year----

taxedprofitmean <- mean(taxedprofit)

goodmonths <- taxedprofit > taxedprofitmean
print(goodmonths)
```

```
##  [1]  TRUE FALSE FALSE FALSE FALSE  TRUE  TRUE  TRUE  TRUE FALSE FALSE  TRUE
```

```r
# Bad months - where the profit after tax was less than the mean for the year----

badmonths <- taxedprofit < taxedprofitmean
print(badmonths)
```

```
##  [1] FALSE  TRUE  TRUE  TRUE  TRUE FALSE FALSE FALSE FALSE  TRUE  TRUE FALSE
```

```r
# The best month - where the profit after tax was max for the year----

bestmonth <- which.max(taxedprofit)
print(bestmonth)
```

```
## [1] 12
```

```r
# The worst month - where the profit after tax was min for the year----

worstmonth <- which.min(taxedprofit)
print(worstmonth)
```

```
## [1] 3
```

```r
# Units of 1000 ----

revenue.1000 <- round(revenue/1000)
expenses.1000 <- round(expenses/1000)
profit.1000 <- round(profit/1000)
taxedprofit.1000 <- round(taxedprofit/1000)

#Outputs----
print(revenue.1000)
```

```
##  [1] 15  8  9  9  8  8 11 10 10 14 11 15
```

```r
print(expenses.1000)
```

```
##  [1] 12  6 12 12  9  1  3  6  7 17 10  4
```

```r
print(profit.1000)
```

```
##  [1]  3  2 -4 -3 -1  7  8  4  3 -2  1 12
```

```r
print(taxedprofit.1000)
```

```
##  [1]  2  1 -3 -2  0  5  6  3  2 -2  0  8
```