

Financial Analysis

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```
#Data----
revenue <- c(14574.49, 7606.46, 8611.41, 9175.41, 8058.65, 8105.44, 11496.28, 9766.09,
            10305.32, 14379.96, 10713.97, 15433.50)
expenses <- c(12051.82, 5695.07, 12319.20, 12089.72, 8658.57, 840.20, 3285.73,
            5821.12, 6976.93, 16618.61, 10054.37, 3803.96)

# 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----
```

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

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

```
# 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
```

```
# 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
```

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

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

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

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

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

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

```
# 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
```

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

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

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

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

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

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