Udemy_R_Course1_Homework

Zhongyuelin

2022-10-12

Homework 2 : Law of Large Numbers

```
N=1000
counter=0
for (i in rnorm(N)) {
  if(i>-1 & i<1){
    counter=counter+1
  }

}
counter/N
```

```
## [1] 0.679
```

Homework 3: Financial Statement Analysis

```
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

#profit for each match
profit=revenue-expenses
profit
```

```
##  [1]  2522.67  1911.39 -3707.79 -2914.31  -599.92  7265.24  8210.55  3944.97
##  [9]  3328.39 -2238.65   659.60 11629.54
```

```
#profit after tax(tax rate is 30%)
tax= round(profit*0.3,digits=2)
tax
```

```
##  [1]   756.80   573.42 -1112.34  -874.29  -179.98  2179.57  2463.17  1183.49
##  [9]   998.52  -671.60   197.88  3488.86
```

```
profit.after.tax=profit-tax
profit.after.tax
```

```
##  [1]  1765.87  1337.97 -2595.45 -2040.02  -419.94  5085.67  5747.38  2761.48
##  [9]  2329.87 -1567.05   461.72  8140.68
```

```r
#profit margin for each month(profit after tax divided by revenue)
profit.margin=round(profit.after.tax/revenue,2)
#good month (where the profit.after.tax greater than mean for profit)
mean_pat=mean(profit.after.tax)
mean_pat
```

```
## [1] 1750.682
```

```r
good.month=profit.after.tax>mean_pat
good.month
```

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

```r
#Bad Month(PAT<mean_pat)
bad_month=profit.after.tax<mean_pat
bad_month
```

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

```r
#Best month(the PAT max for the year)
best.month=profit.after.tax==max(profit.after.tax)
best.month
```

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

```r
#Worth month(Min Pat for the year)
worst.month=profit.after.tax==min(profit.after.tax)
worst.month
```

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

```r
#units of thousdands
revenue.1000=round(revenue/1000)
expenses.1000=round(expenses/1000)
profits.1000=round(profit/1000)
profit.after.tax.1000=round(profit.after.tax/1000)
```