Ujian Tengah Semester

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Ujian Praktikum Tengah Semester

```
#No 2.1 Basic R 1 (Nilai max: 10)

data1<-c(1,2,3,4,5,6,7,8,9)
data1
```

```
[1] 1 2 3 4 5 6 7 8 9
```

```
#No 2.1 Basic R 1 (Nilai max: 10)

rep(1:4, times=3)
```

```
 [1] 1 2 3 4 1 2 3 4 1 2 3 4
```

```
#No 2.1 Basic R 1 (Nilai max: 10)

data1<-c(4,3,2,1)
rep(data1,c(2,3,3,3))
```

```
 [1] 4 4 3 3 3 2 2 2 1 1 1
```

```
#No 2.1 Basic R 1 (Nilai max: 10)

data1<-c(1,2,3,4,5)
rep(data1,c(1,2,3,4,5))
```

```
 [1] 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5
```

```
#No 2.1 Basic R 2 (Nilai max: 20)

data1<-c(1,3,5,7,9,11)
rep(data1,c(2,2,2,2,2,2))
```

```
 [1]  1  1  3  3  5  5  7  7  9  9 11 11
```

```r
#No 2.2 Basic R 2 (Nilai max: 20)

R<-c(2.27, 1.98, 1.69, 1.88, 1.64, 2.14)
H<-c(8.28, 8.04, 9.06, 8.70, 7.58, 8.34)

rumusvolume<-1/3*3.14*R*R*H
rumusvolume
```

```
[1] 44.65709 32.99095 27.08383 32.18425 21.33857 39.97624
```

```r
mean(rumusvolume)
```

```
[1] 33.03849
```

```r
median(rumusvolume)
```

```
[1] 32.5876
```

```r
sd(rumusvolume)
```

```
[1] 8.440409
```

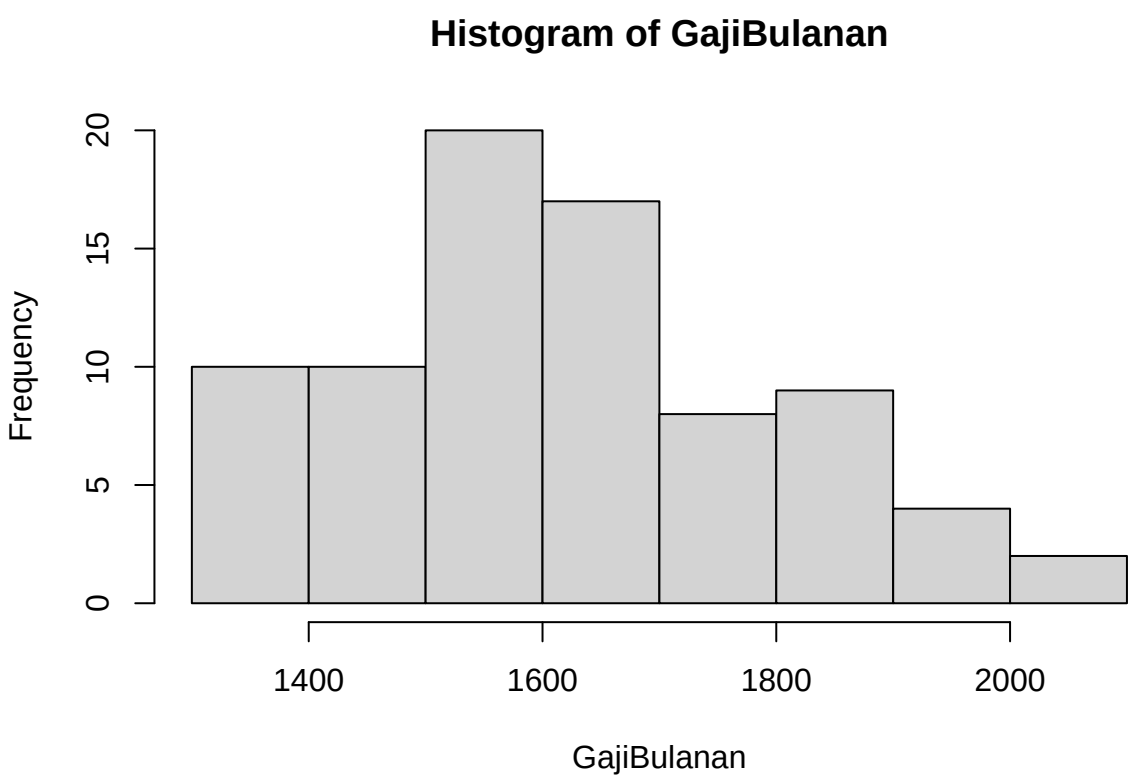
```r
#No 2.3 Kategorisasi Data (Nilai max:10)

penjelasanKualitatif <- "Data kualitatif adalah data dalam penelitian yang menjelaskan suatu peristiwa
penjelasanKualitatif
```

```
[1] "Data kualitatif adalah data dalam penelitian yang menjelaskan suatu peristiwa berdasarkan hal-hal
```

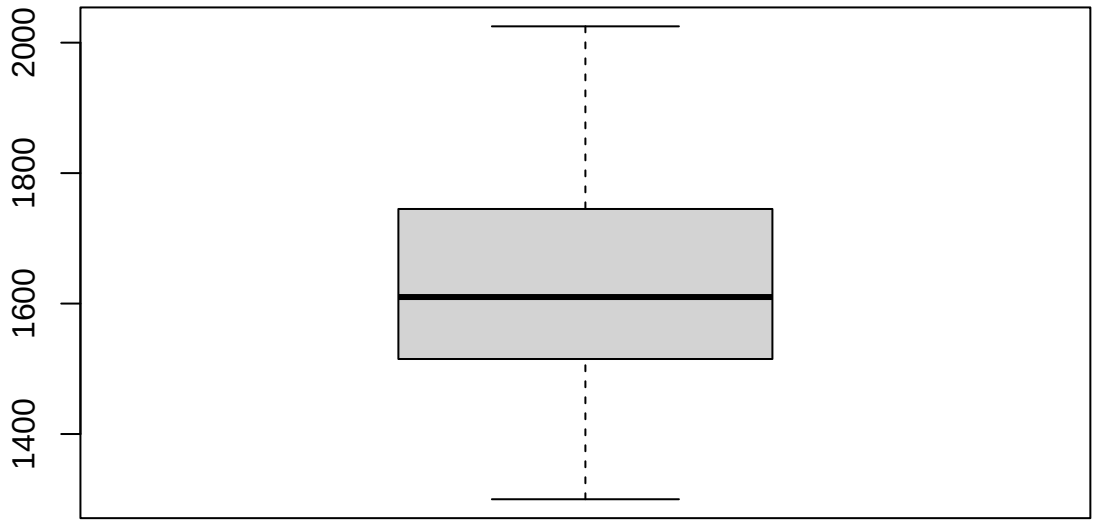
```r
penjelasanKuantitatif <- "Data kualitatif adalah jenis data dalam penelitian yang dapat diukur, dihitun
penjelasanKuantitatif
```

```
[1] "Data kualitatif adalah jenis data dalam penelitian yang dapat diukur, dihitung, serta dapat dideski
```

```r
#No 2.4 Statistika Deskriptif (Nilai max: 20)

GajiBulanan <- c(1550, 1380, 1565, 1590, 1700, 1450, 1500, 1775, 1310, 1730, 1320, 1570,
1380, 1815, 1620, 2025, 1575, 1640, 1750, 2015, 1620, 1440, 1600, 1450,
1675, 2000, 1750, 1620, 1650, 1420, 1580, 1425, 1585, 1400, 1650, 1860,
2000, 1550, 1705, 1820, 1590, 1323, 1740, 1625, 1455, 1550, 1780, 1990,
1580, 1900, 1650, 2000, 1625, 1660, 1400, 1700, 1475, 1600, 1875, 1850,
1340, 1760, 1550, 1900, 1300, 1600, 1620, 1640, 1530, 1550, 1390, 1475,
1650, 1555, 1550, 1900, 1410, 1650, 1600, 1850)
hist(GajiBulanan)
```




```
boxplot(GajiBulanan)
```




```
#No 2.4 Statistika Deskriptif (Nilai max: 20)

summary(GajiBulanan)
```

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
   1300    1522    1610    1628    1742    2025
```

```
#No 2.4 Statistika Deskriptif (Nilai max: 20)

library(moments)
kurtosis(GajiBulanan)
```

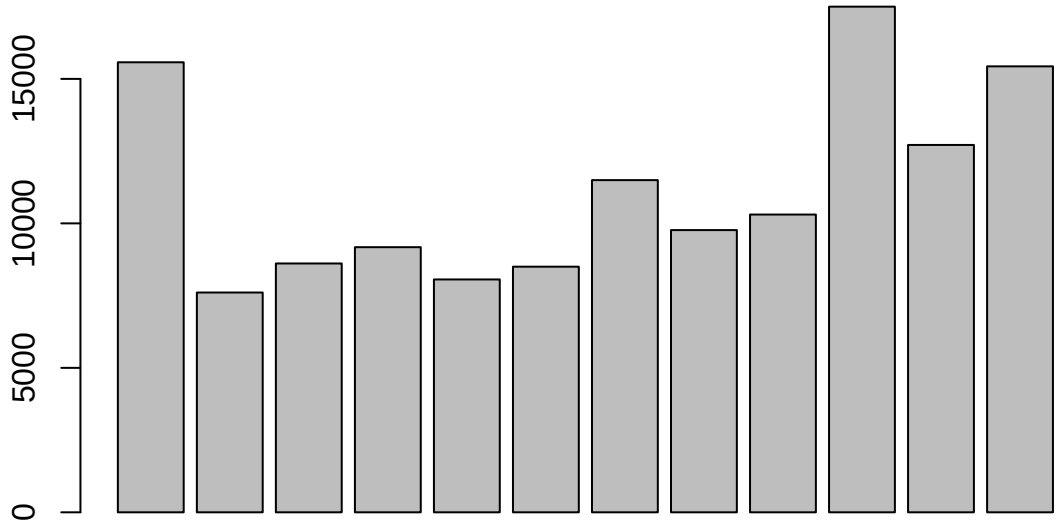
```
[1] 2.586994
```

```
#No 2.5 Korelasi (Nilai max: 15)

R<-c(2.27, 1.98, 1.69, 1.88, 1.64, 2.14)
```

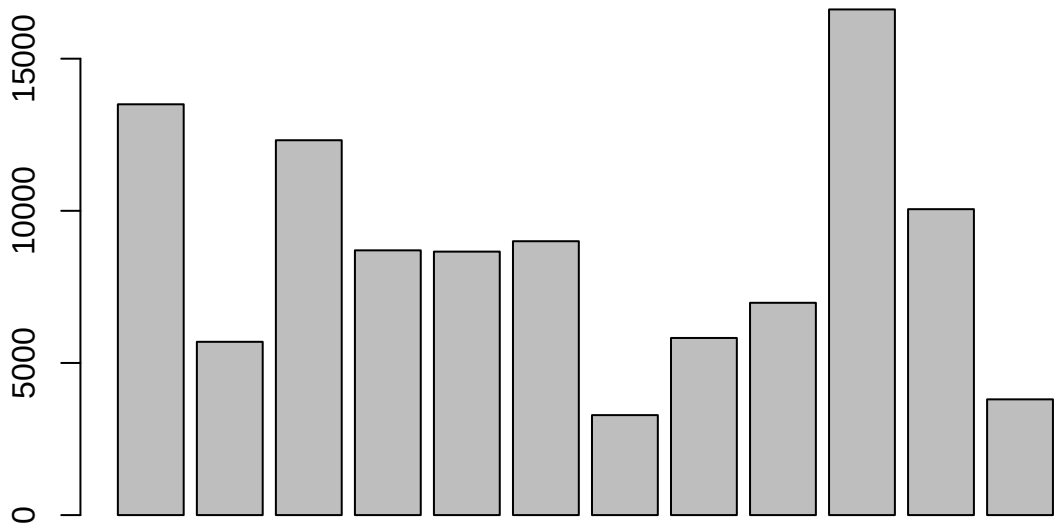
```
#No 2.5 Korelasi (Nilai max: 15)

revenue<-c( 15574.49, 7606.46, 8611.41, 9175.41, 8058.65, 8500.66,
11496.28, 9766.99, 10305.32, 17500, 12713.97, 15433.50)
expenses<-c( 13500.55, 5695.07, 12319.20, 8700.72, 8658.57, 9000.20, 3285.73, 5821.12, 6976.93,
16618.61, 10054.37, 3803.96)
cor(revenue,expenses)
```

```
[1] 0.3896296
```

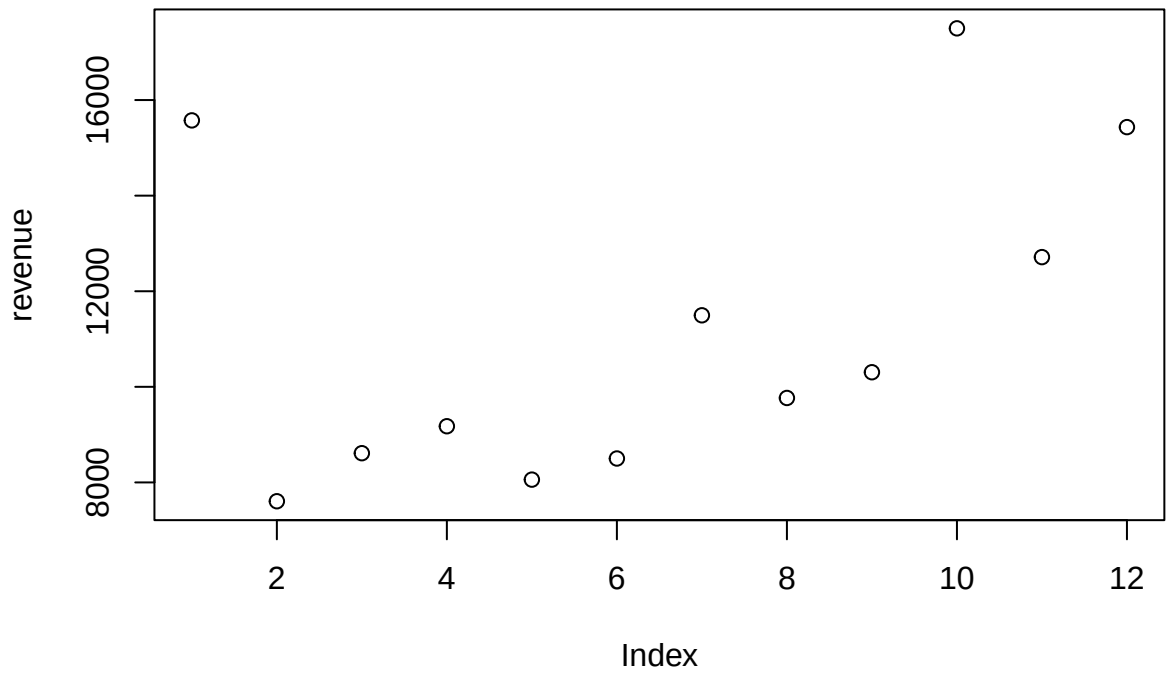
```
barplot(revenue)
```



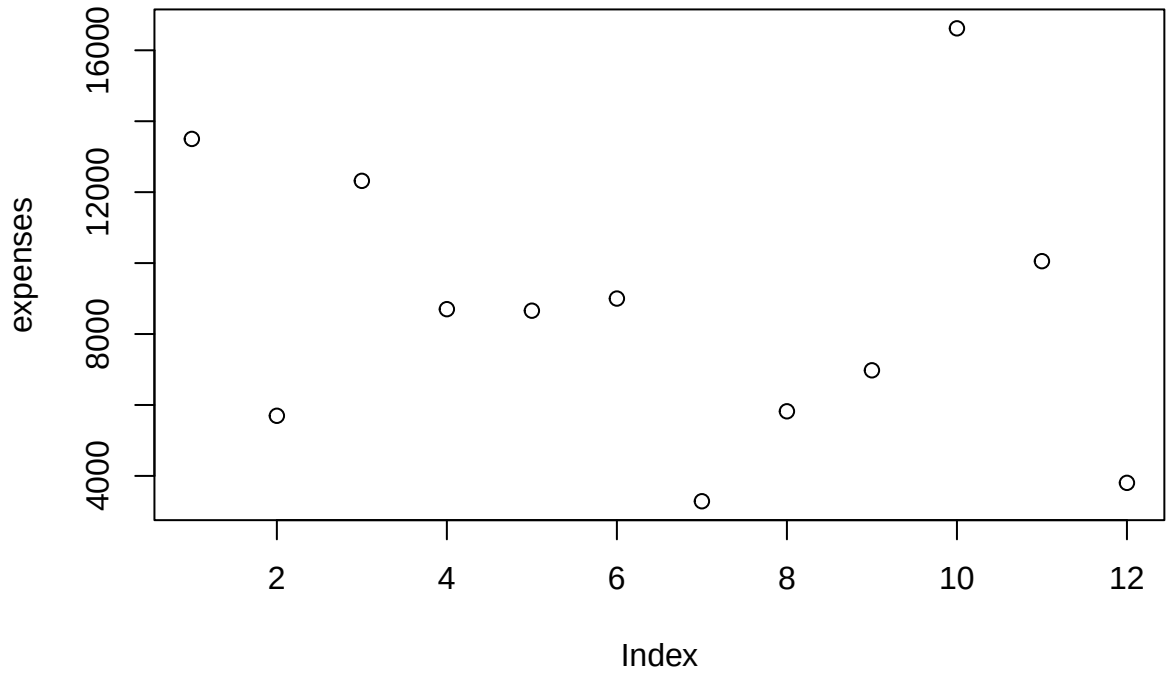

```
barplot(expenses)
```




```
plot(revenue)
```




```
plot(expenses)
```




```
#No 2.5 Korelasi (Nilai max: 15)

revenue_expenses <- data.frame(revenue, expenses)
summary(revenue_expenses)
```

```
    revenue         expenses
 Min.   : 7606   Min.   : 3286
 1st Qu.: 8584   1st Qu.: 5790
 Median :10036   Median : 8680
 Mean   :11229   Mean   : 8703
 3rd Qu.:13394   3rd Qu.:10621
 Max.   :17500   Max.   :16619
```

```
#No 2.6 Ekplorasi Data 1 (Nilai max: 15)

data(state)
?state.x77
```

```
starting httpd help server ... done
```

```
summary(state.x77)
```

```
   Population        Income       Illiteracy       Life Exp
 Min.   :  365   Min.   :3098   Min.   :0.500   Min.   :67.96
```

```
 1st Qu.: 1080   1st Qu.:3993   1st Qu.:0.625   1st Qu.:70.12
 Median : 2838   Median :4519   Median :0.950   Median :70.67
 Mean   : 4246   Mean   :4436   Mean   :1.170   Mean   :70.88
 3rd Qu.: 4968   3rd Qu.:4814   3rd Qu.:1.575   3rd Qu.:71.89
 Max.   :21198   Max.   :6315   Max.   :2.800   Max.   :73.60
     Murder          HS Grad          Frost             Area
 Min.   : 1.400   Min.   :37.80   Min.   :  0.00   Min.   :  1049
 1st Qu.: 4.350   1st Qu.:48.05   1st Qu.: 66.25   1st Qu.: 36985
 Median : 6.850   Median :53.25   Median :114.50   Median : 54277
 Mean   : 7.378   Mean   :53.11   Mean   :104.46   Mean   : 70736
 3rd Qu.:10.675   3rd Qu.:59.15   3rd Qu.:139.75   3rd Qu.: 81163
 Max.   :15.100   Max.   :67.30   Max.   :188.00   Max.   :566432
```

```
state.x77df <- data.frame(state.x77)
rownames(state.x77df)[which.max(state.x77df$Income)]
```

```
[1] "Alaska"
```

```
sum(state.x77df$Population)
```

```
[1] 212321
```

```
mean(state.x77df$Population)
```

```
[1] 4246.42
```

```
sum(state.x77df$Murder)
```

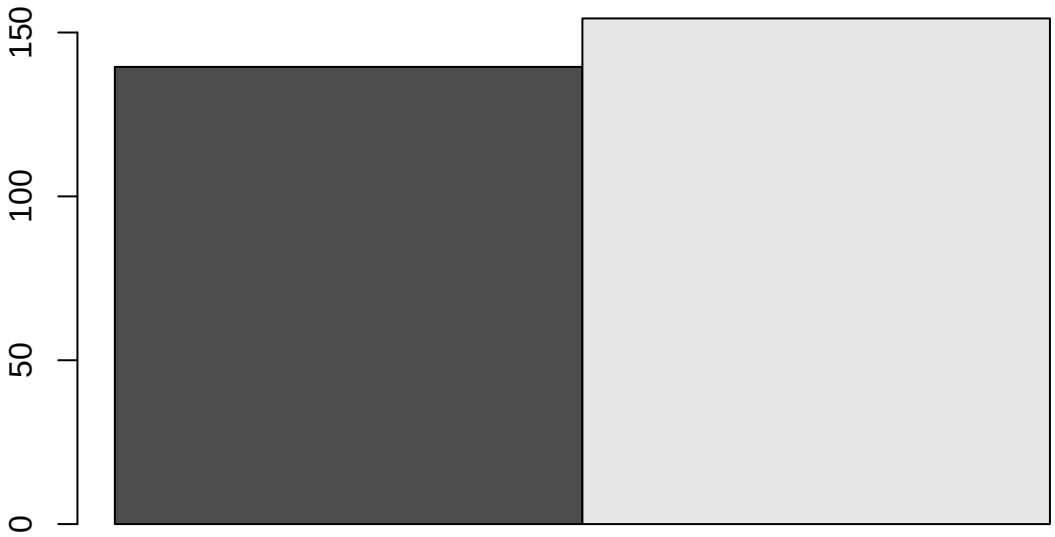
```
[1] 368.9
```

```
state.x77[,c(2,5)]
```

```
               Income Murder
Alabama          3624   15.1
Alaska           6315   11.3
Arizona          4530    7.8
Arkansas         3378   10.1
California       5114   10.3
Colorado         4884    6.8
Connecticut      5348    3.1
Delaware         4809    6.2
Florida          4815   10.7
Georgia          4091   13.9
Hawaii           4963    6.2
Idaho            4119    5.3
Illinois         5107   10.3
Indiana          4458    7.1
Iowa             4628    2.3
Kansas           4669    4.5
Kentucky         3712   10.6
```

```
Louisiana        3545   13.2
Maine            3694    2.7
Maryland         5299    8.5
Massachusetts    4755    3.3
Michigan         4751   11.1
Minnesota        4675    2.3
Mississippi      3098   12.5
Missouri         4254    9.3
Montana          4347    5.0
Nebraska         4508    2.9
Nevada           5149   11.5
New Hampshire    4281    3.3
New Jersey       5237    5.2
New Mexico       3601    9.7
New York         4903   10.9
North Carolina   3875   11.1
North Dakota     5087    1.4
Ohio             4561    7.4
Oklahoma         3983    6.4
Oregon           4660    4.2
Pennsylvania     4449    6.1
Rhode Island     4558    2.4
South Carolina   3635   11.6
South Dakota     4167    1.7
Tennessee        3821   11.0
Texas            4188   12.2
Utah             4022    4.5
Vermont          3907    5.5
Virginia         4701    9.5
Washington       4864    4.3
West Virginia    3617    6.7
Wisconsin        4468    3.0
Wyoming          4566    6.9
```

```r
#No 2.7 Ekplorasi Data 2 (Nilai max: 10)

clubA<-c(12.9, 13.5, 12.8, 13.6, 17.2, 13.2, 12.6, 15.3, 14.4,11,3)
clubB<-c(14.7, 15.6, 15.0, 15.2, 16.8, 20.0, 12.0, 15.9, 16.0, 13.1)

runner <- data.frame(clubA=sum(clubA), clubB=sum(clubB))
barplot(t(as.matrix(runner)), beside = TRUE)
```


150
100
50
0