UNIVERSITI TEKNOLOGI PETRONAS

LAB WEEK 8

SEP 2025 SEMESTER

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BACHELOR OF COMPUTER SCIENCE

DATA SCIENCE

TEB2164

Contents

Code

Activity 1

```
#Activity 1

quiz.data <- data.frame(
  name = c("Anastasia", "Dima", "Michael", "Matthew", "Laura", "Kevin", "Jonas"),
  score = c(12.5, 9.0, 16.5, 12.0, 9.0, 8.0, 19.0),
  attempts = c(1, 3, 2, 3, 2, 1, 2)
)

View(quiz.data)
```

	name	score	attempts	qualify
1	Anastasia	12.5	1	yes
2	Dima	9.0	3	no
3	Michael	16.5	2	yes
4	Matthew	12.0	3	no
5	Laura	9.0	2	no
6	Kevin	8.0	1	no
7	Jonas	19.0	2	yes

Activity 2

```
#Activity 2

#Add qualify column
quiz.data$qualify <- c("yes", "no", "yes", "no", "no", "no", "yes")
quiz.data.new.column <- quiz.data
print(quiz.data.new.column)

View(quiz.data.new.column)
```

	name	score	attempts	qualify
1	Anastasia	12.5	1	yes
2	Dima	9.0	3	no
3	Michael	16.5	2	yes
4	Matthew	12.0	3	no
5	Laura	9.0	2	no
6	Kevin	8.0	1	no
7	Jonas	19.0	2	yes

Activity 3

```
#Activity 3

new.row <- data.frame(
  name = c("Emily"),
  score = c(14.5),
  attempts = c(1),
  qualify = c("yes")
)

#Bind
quiz.data.new.row <- rbind(quiz.data.new.column, new.row)
print(quiz.data.new.row)

View(quiz.data.new.row)
```

	name	score	attempts	qualify
1	Anastasia	12.5	1	yes
2	Dima	9.0	3	no
3	Michael	16.5	2	yes
4	Matthew	12.0	3	no
5	Laura	9.0	2	no
6	Kevin	8.0	1	no
7	Jonas	19.0	2	yes
8	Emily	14.5	1	yes

Activity 4

```
#Activity 4

#Structure
str(quiz.data.new.row)

#Statistical Summary
print(summary(quiz.data.new.row))

#Dimensions
print(dim(quiz.data.new.row))
print(nrow(quiz.data.new.row))
print(ncol(quiz.data.new.row))
```

```
> str(quiz.data.new.row)
'data.frame':   8 obs. of  4 variables:
 $ name    : chr  "Anastasia" "Dima" "Michael" "Matthew" ...
 $ score   : num  12.5 9 16.5 12 9 8 19 14.5
 $ attempts: num  1 3 2 3 2 1 2 1
 $ qualify : chr  "yes" "no" "yes" "no" ...
```

```
     name                score           attempts      qualify
 Length:8           Min.   : 8.00   Min.   :1.000   Length:8
 Class :character   1st Qu.: 9.00   1st Qu.:1.000   Class :character
 Mode  :character   Median :12.25   Median :2.000   Mode  :character
                    Mean   :12.56   Mean   :1.875
                    3rd Qu.:15.00   3rd Qu.:2.250
                    Max.   :19.00   Max.   :3.000
```

```
> print(dim(quiz.data.new.row))
[1] 8 4

> print(nrow(quiz.data.new.row))
[1] 8

> print(ncol(quiz.data.new.row))
[1] 4
```

My insight and observation of the data set is the dimension with row 8, and 4 columns. Each of the statistical analysis of all of column values have been calculated min, 1st and 3rd quartile, median, mean, and max.