HW2\_Group #1\_Austin Halvorsen

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# Problems

## Question 1

### (i)

[1] 1 5 9 13 17

### (ii)

## Question 2

### (i)

[,1] [,2] [,3] [,4] [,5]  
[1,] 20 21 22 23 24  
[2,] 25 26 27 28 29  
[3,] 30 31 32 33 34  
[4,] 35 36 37 38 39

A B C D E  
[1,] 20 21 22 23 24  
[2,] 25 26 27 28 29  
[3,] 30 31 32 33 34  
[4,] 35 36 37 38 39

### (ii)

### (iii)

[,1] [,2]  
B 26 36  
D 28 38

### (iv)

[,1] [,2]  
B -1.9 1.4  
D 1.8 -1.3

### (v)

[,1] [,2]  
[1,] 1 0  
[2,] 0 1

## Question 3

### (i)

mpg cyl disp hp drat wt qsec vs am gear carb  
Mazda RX4 21.0 6 160.0 110 3.90 2.620 16.46 0 1 4 4  
Mazda RX4 Wag 21.0 6 160.0 110 3.90 2.875 17.02 0 1 4 4  
Datsun 710 22.8 4 108.0 93 3.85 2.320 18.61 1 1 4 1  
Hornet 4 Drive 21.4 6 258.0 110 3.08 3.215 19.44 1 0 3 1  
Hornet Sportabout 18.7 8 360.0 175 3.15 3.440 17.02 0 0 3 2  
Valiant 18.1 6 225.0 105 2.76 3.460 20.22 1 0 3 1  
Duster 360 14.3 8 360.0 245 3.21 3.570 15.84 0 0 3 4  
Merc 240D 24.4 4 146.7 62 3.69 3.190 20.00 1 0 4 2  
Merc 230 22.8 4 140.8 95 3.92 3.150 22.90 1 0 4 2  
Merc 280 19.2 6 167.6 123 3.92 3.440 18.30 1 0 4 4

### (ii)

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':  
  
 filter, lag

The following objects are masked from 'package:base':  
  
 intersect, setdiff, setequal, union

### (iii)

cyl hp wt vs am gear mpg gpm  
1 4 93 2.320 1 1 4 22.8 0.044  
2 4 62 3.190 1 0 4 24.4 0.041  
3 4 95 3.150 1 0 4 22.8 0.044  
4 4 66 2.200 1 1 4 32.4 0.031  
5 4 52 1.615 1 1 4 30.4 0.033

### (iv)

'data.frame': 5 obs. of 7 variables:  
 $ cyl : num 4 4 4 4 4  
 $ hp : num 93 62 95 66 52  
 $ wt : num 2.32 3.19 3.15 2.2 1.61  
 $ vs : num 1 1 1 1 1  
 $ am : num 1 0 0 1 1  
 $ gear: num 4 4 4 4 4  
 $ mpg : num 22.8 24.4 22.8 32.4 30.4

### (v)

'data.frame': 5 obs. of 7 variables:  
 $ cyl : Factor w/ 1 level "4": 1 1 1 1 1  
 $ hp : num 93 62 95 66 52  
 $ wt : num 2.32 3.19 3.15 2.2 1.61  
 $ vs : Factor w/ 1 level "1": 1 1 1 1 1  
 $ am : Factor w/ 2 levels "0","1": 2 1 1 2 2  
 $ gear: Factor w/ 1 level "4": 1 1 1 1 1  
 $ mpg : num 22.8 24.4 22.8 32.4 30.4

# Computer Exercises

## Alcohol Dataset for Questions

### (i)

### (ii)

### (iii)

### (iv)

### (v)

# Including r output within some text

for example I calculated the average number of cars as:

avg\_speed <- mean(cars$speed)  
avg\_speed

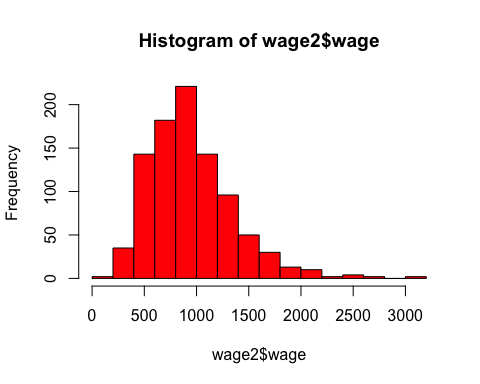
## [1] 15.4

from the R output above, we see that the average speed is equal to 15.4.

Or you could directly do some in-line calculations. Here is the average speed: 15.4.

We can also insert plots from R in Rmarkdown:

hist(wage2$wage, col="red")



How to write mathematical formulas in **Rmarkdown**:

1. Writing in-line formulas using one dollar sign:
2. Writing centered and stand alone formulas using 2 dollar signs:

then