1. Perform the following operations using only the *dplyr* library.

```
install.packages("dplyr")
library(dplyr)
```

2. We will use the mtcars dataframe for this exercise!

```
df<-mtcars
```

3. Return rows of cars that have an mpg value greater than 20 and 6 cylinders.

```
a<-(filter(df, mpg > 20, cyl==6))
a
```

4. Reorder the Data Frame by cyl first, then by descending wt.

```
df %>% arrange(cyl) %>% arrange(desc(wt))
```

5. Select the columns mpg and hp

```
select(df,mpg, hp)
```

6. Select the distinct values of the gear column.

```
distinct(select(df, gear))
```

7. Create a new column called "Performance" which is calculated by hp divided by wt.

```
Performance <- mutate(df, Performance =hp/wt)
Performance
```

8. Find the mean mpg value using dplyr.

```
Amean <- mean(df$mpg)
```

 $9. \ \,$  Use pipe operators to get the mean hp value for cars with 6 cylinders.

```
mtcars %>% filter(cyl==6) %>% summarize(avg hp = mean(hp))
```