Select Specific Columns

```
library(dplyr)
selected_columns <- mtcars %>% select(mpg, cyl, hp)
head(selected_columns)
```

Filter Rows by Condition

```
filtered_data <- mtcars %>% filter(mpg > 20)
head(filtered_data)
```

Arrange Rows by a Column

```
arranged_data <- mtcars %>% arrange(desc(mpg))
head(arranged_data)
```

Mutate to Create New Columns

```
mutated_data <- mtcars %>% mutate(weight_ton = wt * 0.45)
head(mutated_data)
```

Summarize Data

```
summary_data <- mtcars %>% summarise(avg_mpg = mean(mpg), max_hp =
max(hp))
print(summary_data)
```

Group By and Summarize

```
grouped_summary <- mtcars %>% group_by(cyl) %>% summarise(avg_mpg =
mean(mpg))
print(grouped_summary)
```

Count Rows by Group

```
count_cyl <- mtcars %>% count(cyl)
print(count_cyl)
```

Sample Random Rows

```
sampled_data <- mtcars %>% sample_n(5)
print(sampled_data)
```

Add a New Calculated Column

```
new_column <- mtcars %>% mutate(power_to_weight = hp / wt)
head(new_column)
```

Filter and Arrange Together

```
filtered_arranged <- mtcars %>% filter(cyl == 6) %>%
arrange(desc(mpg))
head(filtered_arranged)
```

Summarize Multiple Columns

```
multi_summary <- mtcars %>% summarise(avg_mpg = mean(mpg), avg_hp =
mean(hp))
print(multi_summary)
```

Rename Columns

```
renamed_data <- mtcars %>% rename(Miles_per_Gallon = mpg, Horsepower =
hp)
head(renamed_data)
```

Select Columns and Rename

```
select_rename <- mtcars %>% select(Miles_per_Gallon = mpg, Cylinders = cyl)
head(select_rename)
```

Create a Cumulative Sum Column

```
cumulative_sum <- mtcars %>% mutate(cumulative_mpg = cumsum(mpg))
head(cumulative_sum)
```

Filter Rows with Multiple Conditions

```
multi_condition <- mtcars %>% filter(mpg > 20, hp > 100)
head(multi_condition)
```

tidyr

Gather Multiple Columns into Key-Value Pairs

```
library(tidyr)
gathered_data <- mtcars %>% gather(key = "variable", value = "value", mpg:hp)
head(gathered_data)
```

Spread Key-Value Pairs into Multiple Columns

```
spread_data <- gathered_data %>% spread(key = "variable", value = "value")
head(spread_data)
```

Separate a Column into Multiple Columns

```
separate_data <- mtcars %>% mutate(car_model = rownames(mtcars)) %>%
separate(car_model, into = c("make", "model"), sep = " ")
head(separate_data)
```

Unite Multiple Columns into a Single Column

```
united_data <- separate_data %>% unite("car_model", make, model, sep =
" ")
head(united_data)
```

Complete Missing Values

```
incomplete_data <- mtcars %>% mutate(mpg = ifelse(mpg < 15, NA, mpg))
completed_data <- incomplete_data %>% complete(mpg)
head(completed_data)
```

Fill Missing Values

```
filled_data <- incomplete_data %>% fill(mpg, .direction = "down")
head(filled_data)
```

Drop NA Values

```
dropped_na <- incomplete_data %>% drop_na()
head(dropped_na)
```

Expand Data into All Possible Combinations

```
expanded_data <- mtcars %>% expand(cyl, gear)
head(expanded_data)
```

Replace Missing Values with Specific Values

```
replaced_na <- incomplete_data %>% replace_na(list(mpg = 0))
head(replaced_na)
```

Pivot Longer

```
longer_data <- mtcars %>% pivot_longer(cols = mpg:hp, names_to =
"metric", values_to = "value")
head(longer_data)
```

Pivot Wider

```
wider_data <- longer_data %>% pivot_wider(names_from = "metric",
values_from = "value")
head(wider_data)
```

Drop Columns with NA

```
drop_na_columns <- incomplete_data %>% drop_na(mpg)
head(drop_na_columns)
```

Nest Data by Groups

```
nested_data <- mtcars %>% group_by(cyl) %>% nest()
print(nested_data)
```

Unnest Data

```
unnested_data <- nested_data %>% unnest(cols = c(data))
head(unnested_data)
```

Separate Rows by Delimiter

```
mtcars$car_names <- rownames(mtcars)
mtcars$car_names <- paste(mtcars$car_names, mtcars$cyl, sep = "-")
separated_rows <- mtcars %>% separate_rows(car_names, sep = "-")
head(separated_rows)
```