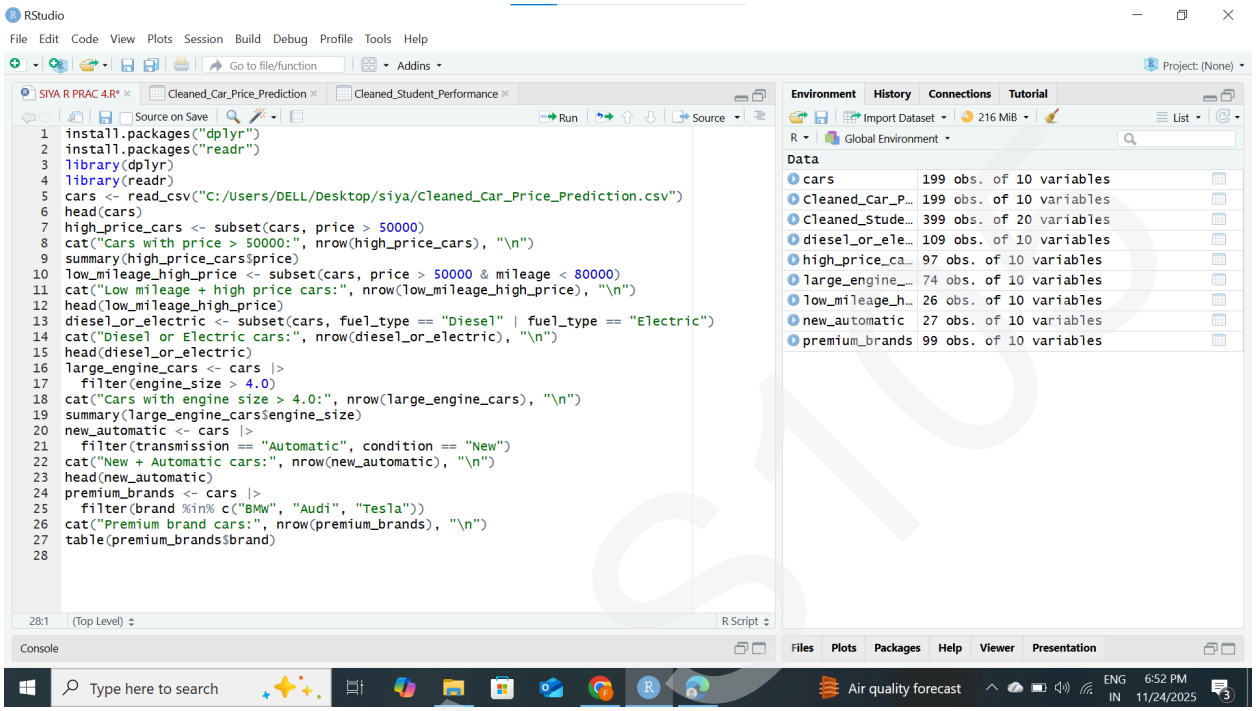
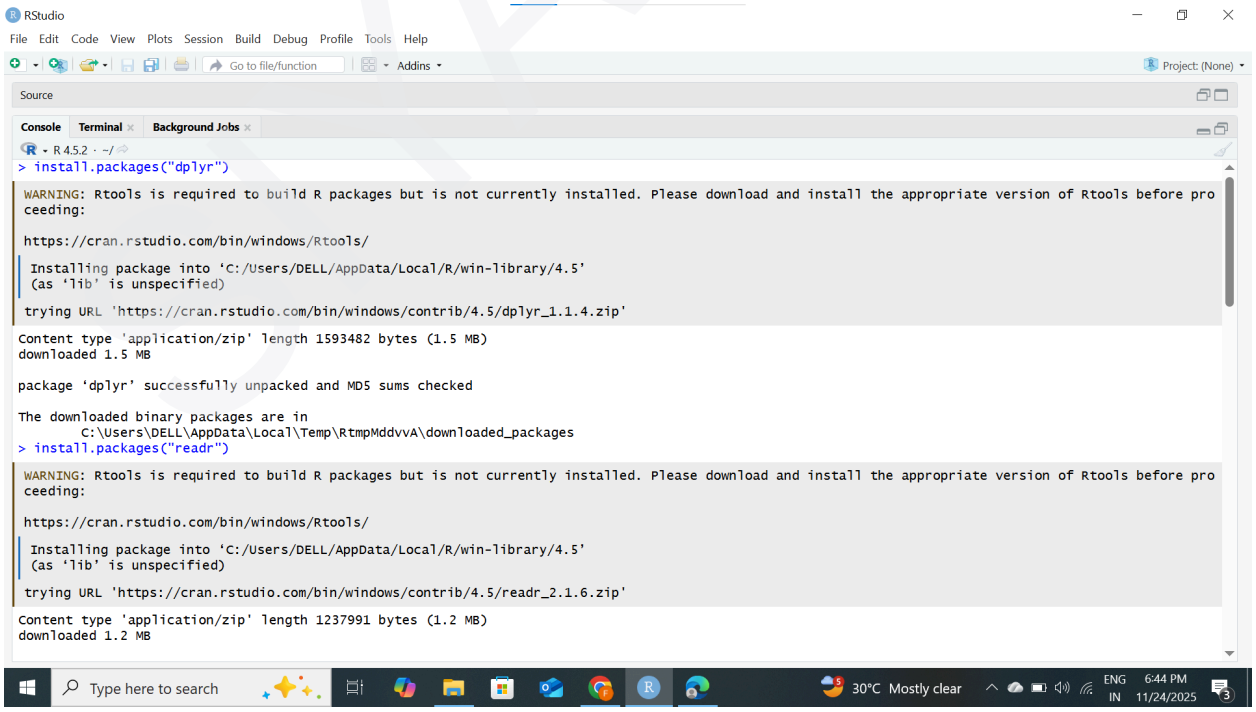
MVLU COLLEGE
PRACTICAL NO. 4

AIM:Applying conditional filters subset() or filter() in R.

#CODE:



#OUTPUT:



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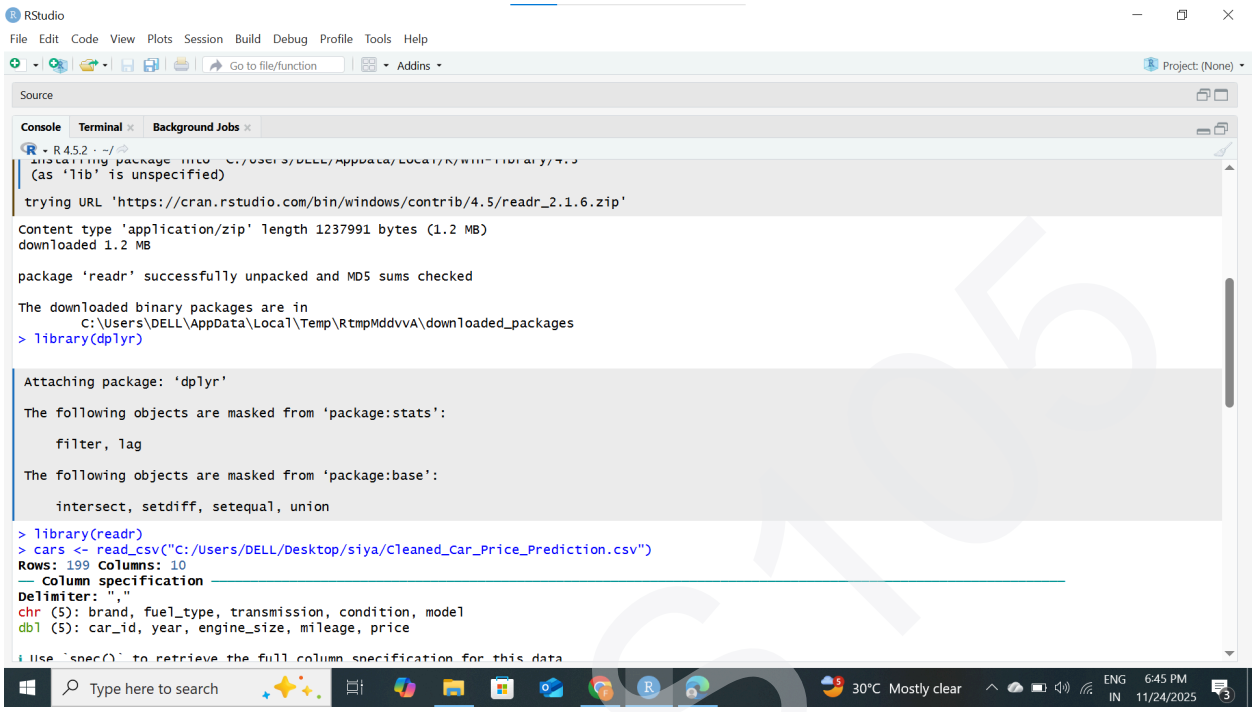

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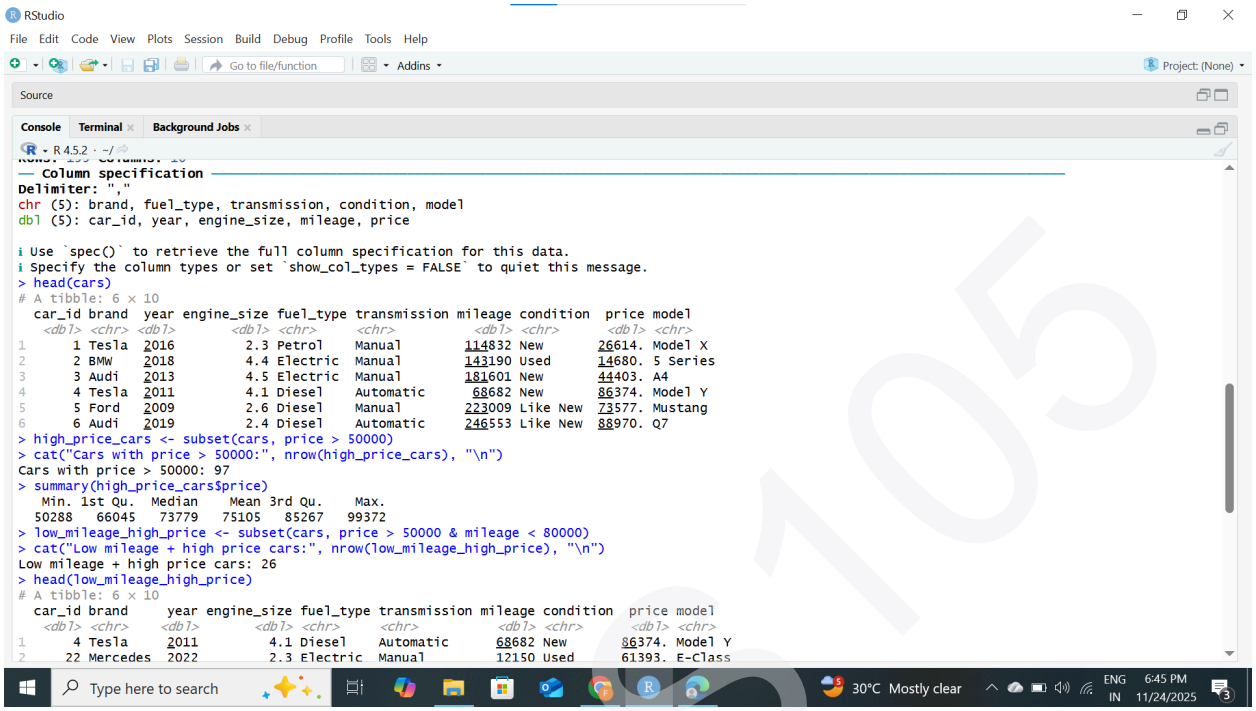
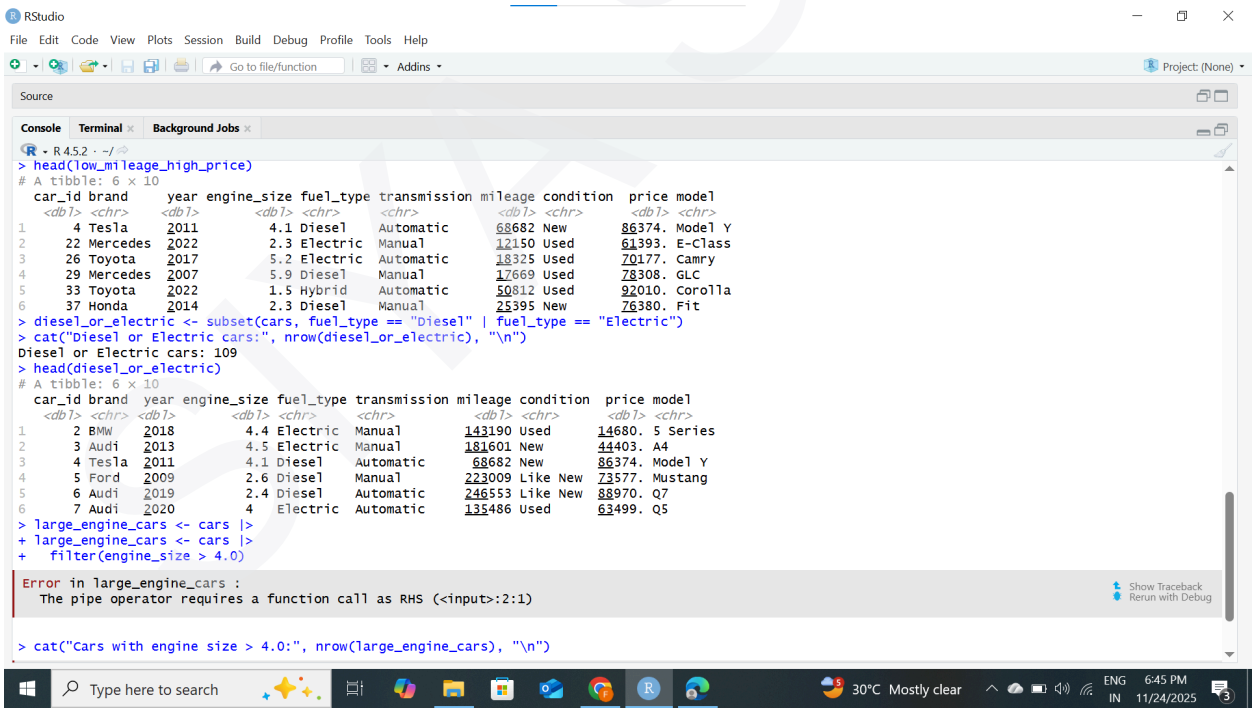


```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console  Terminal  Background Jobs
R 4.5.2 · ~/
── Column specification ──────────────────────────────────────────────────────
Delimiter: ","
chr (5): brand, fuel_type, transmission, condition, model
dbl (5): car_id, year, engine_size, mileage, price

ℹ Use `spec()` to retrieve the full column specification for this data.
ℹ Specify the column types or set `show_col_types = FALSE` to quiet this message.
> head(cars)
# A tibble: 6 × 10
  car_id brand  year engine_size fuel_type transmission mileage condition  price model
   <dbl> <chr> <dbl>       <dbl> <chr>     <chr>          <dbl> <chr>      <dbl> <chr>
1      1 Tesla  2016         2.3 Petrol    Manual        114832 New       26614. Model X
2      2 BMW    2018         4.4 Electric  Manual        143190 Used      14680. 5 Series
3      3 Audi   2013         4.5 Electric  Manual        181601 New       44403. A4
4      4 Tesla  2011         4.1 Diesel    Automatic      68682 New       86374. Model Y
5      5 Ford   2009         2.6 Diesel    Manual        223009 Like New  73577. Mustang
6      6 Audi   2019         2.4 Diesel    Automatic     246553 Like New  88970. Q7
> high_price_cars <- subset(cars, price > 50000)
> cat("Cars with price > 50000:", nrow(high_price_cars), "\n")
Cars with price > 50000: 97
> summary(high_price_cars$price)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  50288   66045   73779   75105   85267   99372
> low_mileage_high_price <- subset(cars, price > 50000 & mileage < 80000)
> cat("Low mileage + high price cars:", nrow(low_mileage_high_price), "\n")
Low mileage + high price cars: 26
> head(low_mileage_high_price)
# A tibble: 6 × 10
  car_id brand     year engine_size fuel_type transmission mileage condition  price model
   <dbl> <chr>    <dbl>       <dbl> <chr>     <chr>          <dbl> <chr>      <dbl> <chr>
1      4 Tesla     2011         4.1 Diesel    Automatic      68682 New       86374. Model Y
2     22 Mercedes  2022         2.3 Electric  Manual         12150 Used      61393. E-Class
```



```
RStudio
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Source
Console  Terminal  Background Jobs
R 4.5.2 · ~/
> head(low_mileage_high_price)
# A tibble: 6 × 10
  car_id brand     year engine_size fuel_type transmission mileage condition  price model
   <dbl> <chr>    <dbl>       <dbl> <chr>     <chr>          <dbl> <chr>      <dbl> <chr>
1      4 Tesla     2011         4.1 Diesel    Automatic      68682 New       86374. Model Y
2     22 Mercedes  2022         2.3 Electric  Manual         12150 Used      61393. E-Class
3     26 Toyota    2017         5.2 Electric  Automatic      18325 Used      70177. Camry
4     29 Mercedes  2007         5.9 Diesel    Manual         17669 Used      78308. GLC
5     33 Toyota    2022         1.5 Hybrid    Automatic      50812 Used      92010. Corolla
6     37 Honda     2014         2.3 Diesel    Manual         25395 New       76380. Fit
> diesel_or_electric <- subset(cars, fuel_type == "Diesel" | fuel_type == "Electric")
> cat("Diesel or Electric cars:", nrow(diesel_or_electric), "\n")
Diesel or Electric cars: 109
> head(diesel_or_electric)
# A tibble: 6 × 10
  car_id brand  year engine_size fuel_type transmission mileage condition  price model
   <dbl> <chr> <dbl>       <dbl> <chr>     <chr>          <dbl> <chr>      <dbl> <chr>
1      2 BMW    2018         4.4 Electric  Manual        143190 Used      14680. 5 Series
2      3 Audi   2013         4.5 Electric  Manual        181601 New       44403. A4
3      4 Tesla  2011         4.1 Diesel    Automatic      68682 New       86374. Model Y
4      5 Ford   2009         2.6 Diesel    Manual        223009 Like New  73577. Mustang
5      6 Audi   2019         2.4 Diesel    Automatic     246553 Like New  88970. Q7
6      7 Audi   2020         4   Electric  Automatic     135486 Used      63499. Q5
> large_engine_cars <- cars |>
+ large_engine_cars <- cars |>
+   filter(engine_size > 4.0)
Error in large_engine_cars :
  The pipe operator requires a function call as RHS (<input>:2:1)
Show Traceback  Rerun with Debug

> cat("Cars with engine size > 4.0:", nrow(large_engine_cars), "\n")
```

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