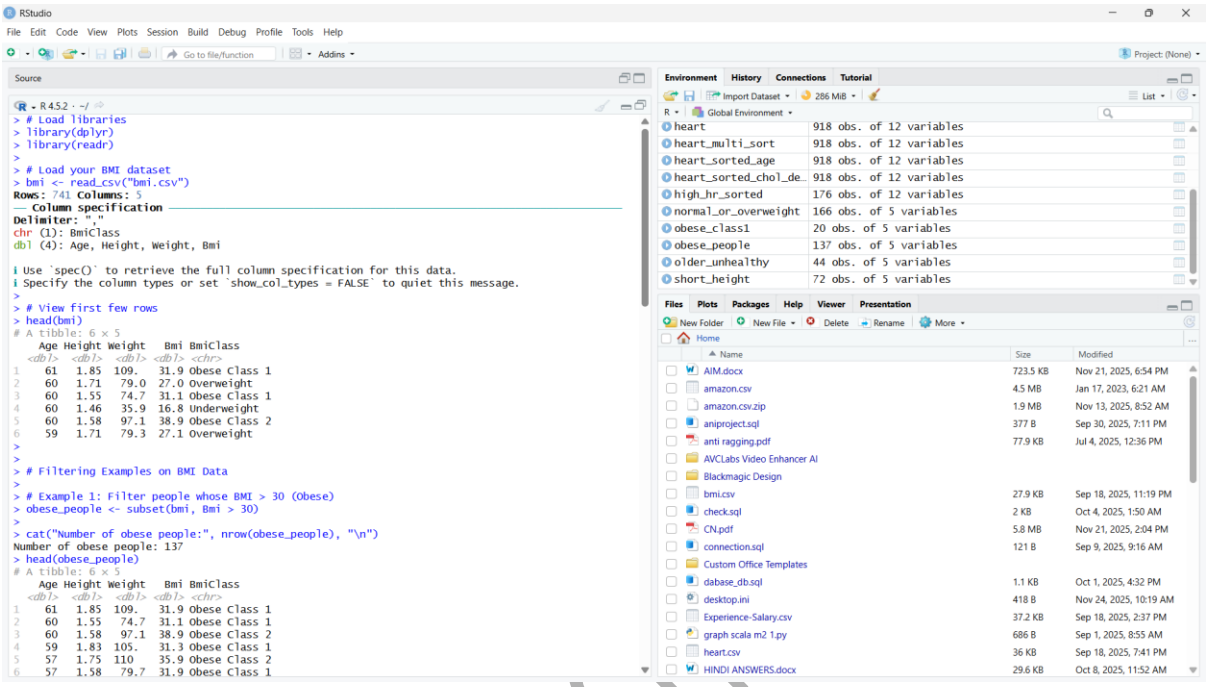
PRACTICAL NO :4

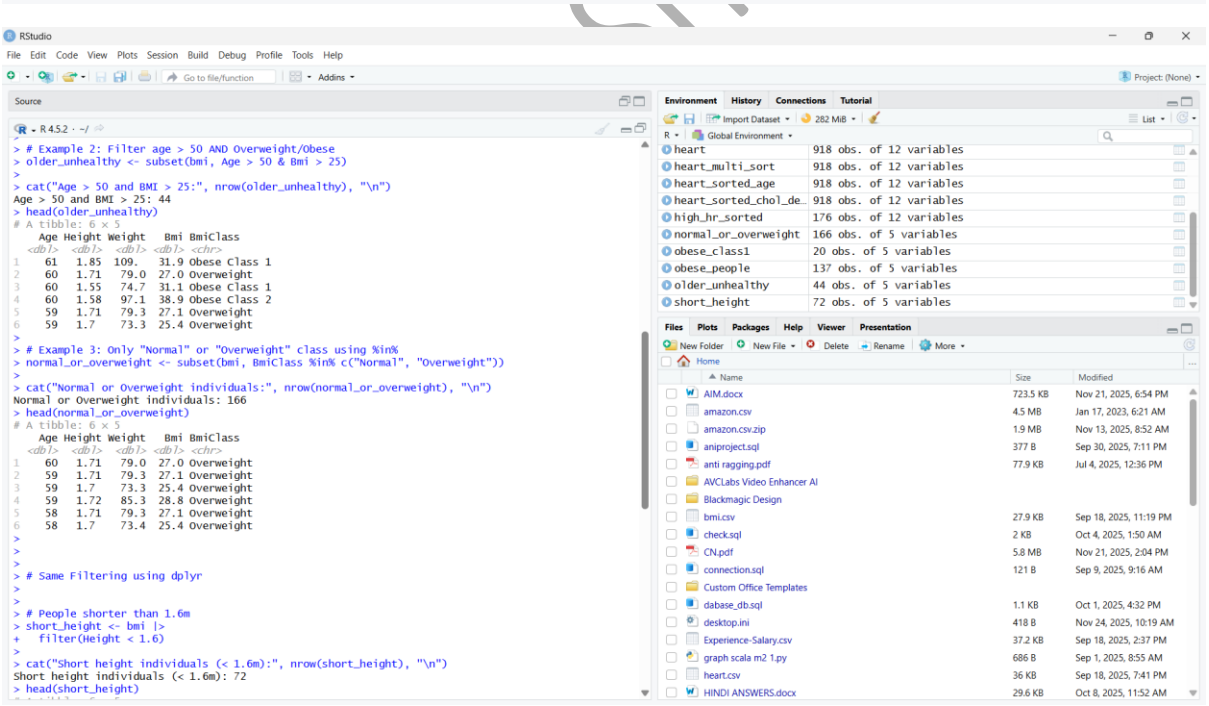
AIM: Applying conditional filters subset() or filter() in R.

OUTPUT:

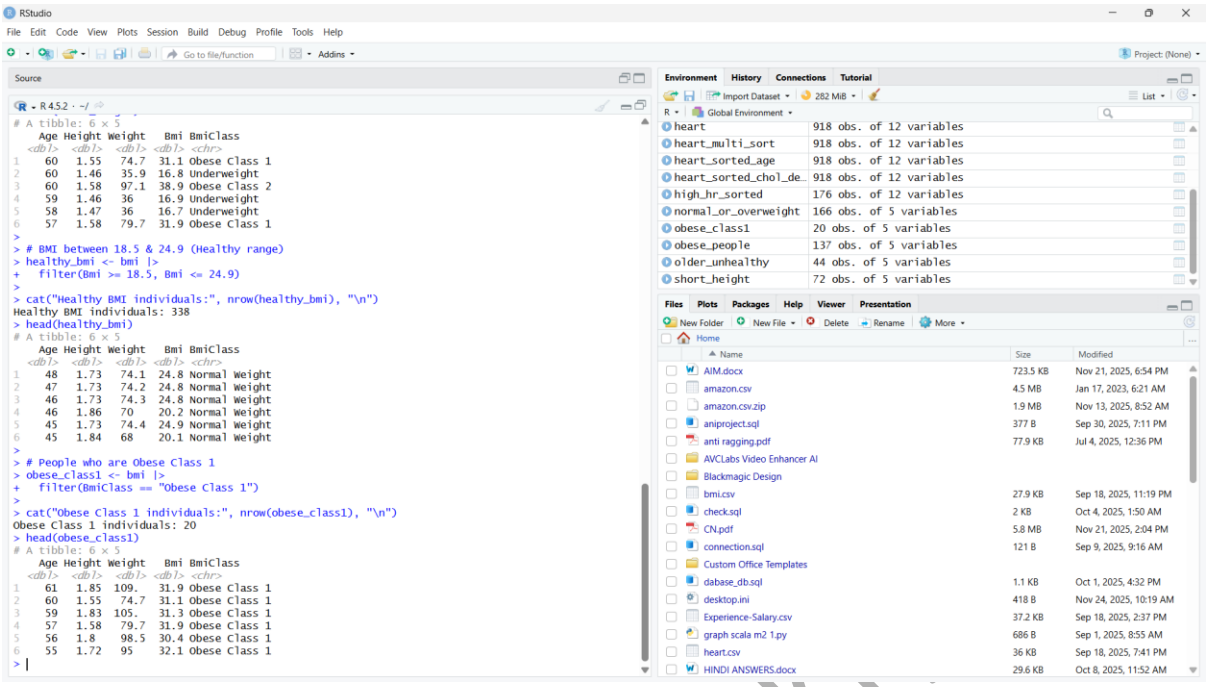


```
> # Load libraries
> library(dplyr)
> library(readr)
>
> # Load your BMI dataset
> bmi <- read_csv("bmi.csv")
Rows: 741 Columns: 5
── Column specification ────────────────────────────────────────
Delimiter: ","
chr (1): BmiClass
dbl (4): Age, Height, Weight, Bmi

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.
>
> # View first few rows
> head(bmi)
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    61   1.85  109.   31.9 Obese Class 1
2    60   1.71   79.0  27.0 Overweight
3    60   1.55   74.7  31.1 Obese Class 1
4    60   1.46   35.9  16.8 Underweight
5    60   1.58   97.1  38.9 Obese Class 2
6    59   1.71   79.3  27.1 Overweight
>
>
> # Filtering Examples on BMI Data
>
> # Example 1: Filter people whose BMI > 30 (Obese)
> obese_people <- subset(bmi, Bmi > 30)
>
> cat("Number of obese people:", nrow(obese_people), "\n")
Number of obese people: 137
> head(obese_people)
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    61   1.85  109.   31.9 Obese Class 1
2    60   1.55   74.7  31.1 Obese Class 1
3    60   1.58   97.1  38.9 Obese Class 2
4    59   1.83  105.   31.3 Obese Class 1
5    57   1.75  110    35.9 Obese Class 2
6    57   1.58   79.7  31.9 Obese Class 1
```



```
> # Example 2: Filter age > 50 AND Overweight/Obese
> older_unhealthy <- subset(bmi, Age > 50 & Bmi > 25)
>
> cat("Age > 50 and BMI > 25:", nrow(older_unhealthy), "\n")
Age > 50 and BMI > 25: 44
> head(older_unhealthy)
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    61   1.85  109.   31.9 Obese Class 1
2    60   1.71   79.0  27.0 Overweight
3    60   1.55   74.7  31.1 Obese Class 1
4    60   1.58   97.1  38.9 Obese Class 2
5    59   1.71   79.3  27.1 Overweight
6    59   1.7    73.3  25.4 Overweight
>
> # Example 3: Only "Normal" or "Overweight" class using %in%
> normal_or_overweight <- subset(bmi, BmiClass %in% c("Normal", "Overweight"))
>
> cat("Normal or Overweight individuals:", nrow(normal_or_overweight), "\n")
Normal or Overweight individuals: 166
> head(normal_or_overweight)
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    60   1.71   79.0  27.0 Overweight
2    59   1.71   79.3  27.1 Overweight
3    59   1.7    73.3  25.4 Overweight
4    59   1.72   85.3  28.8 Overweight
5    58   1.71   79.3  27.1 Overweight
6    58   1.7    73.4  25.4 Overweight
>
>
>
> # Same Filtering using dplyr
>
>
> # People shorter than 1.6m
> short_height <- bmi |>
+   filter(Height < 1.6)
>
> cat("Short height individuals (< 1.6m):", nrow(short_height), "\n")
Short height individuals (< 1.6m): 72
> head(short_height)
```



```
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    60   1.55   74.7  31.1 Obese Class 1
2    60   1.46   35.9  16.8 Underweight
3    60   1.58   97.1  38.9 Obese Class 2
4    59   1.46   36    16.9 Underweight
5    58   1.47   36    16.7 Underweight
6    57   1.58   79.7  31.9 Obese Class 1
>
> # BMI between 18.5 & 24.9 (Healthy range)
> healthy_bmi <- bmi |>
+   filter(Bmi >= 18.5, Bmi <= 24.9)
>
> cat("Healthy BMI individuals:", nrow(healthy_bmi), "\n")
Healthy BMI individuals: 338
> head(healthy_bmi)
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    48   1.73   74.1  24.8 Normal Weight
2    47   1.73   74.2  24.8 Normal Weight
3    46   1.73   74.3  24.8 Normal Weight
4    46   1.86   70    20.2 Normal Weight
5    45   1.73   74.4  24.9 Normal Weight
6    45   1.84   68    20.1 Normal Weight
>
> # People who are Obese Class 1
> obese_class1 <- bmi |>
+   filter(BmiClass == "Obese Class 1")
>
> cat("Obese Class 1 individuals:", nrow(obese_class1), "\n")
Obese Class 1 individuals: 20
> head(obese_class1)
# A tibble: 6 × 5
    Age Height Weight   Bmi BmiClass
  <dbl>  <dbl>  <dbl> <dbl> <chr>
1    61   1.85  109.   31.9 Obese Class 1
2    60   1.55   74.7  31.1 Obese Class 1
3    59   1.83  105.   31.3 Obese Class 1
4    57   1.58   79.7  31.9 Obese Class 1
5    56   1.8    98.5  30.4 Obese Class 1
6    55   1.72   95    32.1 Obese Class 1
>
```

heart	918 obs. of 12 variables
heart_multi_sort	918 obs. of 12 variables
heart_sorted_age	918 obs. of 12 variables
heart_sorted_chol_de...	918 obs. of 12 variables
high_hr_sorted	176 obs. of 12 variables
normal_or_overweight	166 obs. of 5 variables
obese_class1	20 obs. of 5 variables
obese_people	137 obs. of 5 variables
older_unhealthy	44 obs. of 5 variables
short_height	72 obs. of 5 variables

Name	Size	Modified
AIM.docx	723.5 KB	Nov 21, 2025, 6:54 PM
amazon.csv	4.5 MB	Jan 17, 2023, 6:21 AM
amazon.csv.zip	1.9 MB	Nov 13, 2025, 8:52 AM
aniproject.sql	377 B	Sep 30, 2025, 7:11 PM
anti ragging.pdf	77.9 KB	Jul 4, 2025, 12:36 PM
AVCLabs Video Enhancer AI		
Blackmagic Design		
bmi.csv	27.9 KB	Sep 18, 2025, 11:19 PM
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graph scala m2 1.py	686 B	Sep 1, 2025, 8:55 AM
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