

**SHETH L.U.J. & SIR M.V. COLLEGE OF SCIENCE  
SUBJECT - Data Analysis with SAS / SPSS / R**

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> # Example 1: Single condition
> # Filter for bills greater than $30
> high_bill_subset <- subset(tips, total_bill > 30)
> cat("Number of large bills (total_bill > 30):", nrow(high_bill_subset), "\n")
Number of large bills (total_bill > 30): 32
> summary(high_bill_subset$total_bill)
   Min. 1st Qu. Median    Mean 3rd Qu.    Max.
30.06    32.61   35.05  37.36   40.71  50.81
> # Example 2: Multiple conditions (AND)
> # Bills > 30 AND table size > 3 people
> large_group_large_bill <- subset(tips, total_bill > 30 & size > 3)
> cat("Large bill + large group:", nrow(large_group_large_bill), "\n")
Large bill + large group: 19
> head(large_group_large_bill)
# A tibble: 6 × 7
  total_bill  tip sex smoker day time size
     <dbl> <dbl> <chr> <chr> <chr> <chr> <dbl>
1     35.3    5 Female No    Sun  Dinner     4
2     39.4   7.58 Male  No    Sat  Dinner     4
3     30.4    5.6 Male  No    Sun  Dinner     4
4     32.4    6   Male  No    Sun  Dinner     4
5     34.8    5.2 Female No    Sun  Dinner     4
6     38.0    3   Male  Yes   Sat  Dinner     4
> # Example 3: OR condition
> # Customers who are smokers OR gave a tip greater than $6
> smoker_or_big_tip <- subset(tips, smoker == "Yes" | tip > 6)
> cat("Smokers or big tippers:", nrow(smoker_or_big_tip), "\n")
Smokers or big tippers: 97
> head(smoker_or_big_tip)
# A tibble: 6 × 7
```

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3.070 7.510 8.510 8.083 9.550 9.940
> # Example 2: Filter females who are non-smokers
> female_non_smokers <- tips |>
+ filter(sex == "Female", smoker == "No")
> cat("Female non-smokers:", nrow(female_non_smokers), "\n")
Female non-smokers: 54
> head(female_non_smokers)
# A tibble: 6 × 7
  total_bill    tip sex   smoker day   time   size
        <dbl>   <dbl> <chr> <chr>   <chr> <chr>   <dbl>
1      17.0    1.01 Female No     Sun   Dinner     2
2      24.6    3.61 Female No     Sun   Dinner     4
3      35.3     5.   Female No     Sun   Dinner     4
4      14.8    3.02 Female No     Sun   Dinner     2
5      10.3    1.67 Female No     Sun   Dinner     3
6      17.0    3.5  Female No     Sun   Dinner     3
> # Example 3: Filter by set of days using %in%
> # Only Friday and Saturday entries
> fri_sat_tips <- tips |>
+ filter(day %in% c("Fri", "Sat"))
> cat("Tips on Fri or Sat:", nrow(fri_sat_tips), "\n")
Tips on Fri or Sat: 106
> table(fri_sat_tips$day)

Fri Sat
19  87
>
>
> |
```

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```
total_bill  tip sex  smoker day   time   size
<dbl>    <dbl> <chr> <chr> <chr> <chr> <dbl>
1      39.4  7.58 Male  No    Sat   Dinner  4
2      38.0   3     Male  Yes   Sat   Dinner  4
3      11.2  1.76 Male  Yes   Sat   Dinner  2
4      48.3  6.73 Male  No    Sat   Dinner  4
5      20.3  3.21 Male  Yes   Sat   Dinner  2
6      13.8   2     Male  Yes   Sat   Dinner  2
> # Example 1: Filter bills under $10
> small_bills <- tips |>
+ filter(total_bill < 10)
> cat("Number of small bills (< 10):", nrow(small_bills), "\n")
Number of small bills (< 10): 17
> summary(small_bills$total_bill)
  Min. 1st Qu. Median    Mean 3rd Qu.    Max.
3.070  7.510  8.510  8.083  9.550  9.940
> # Example 2: Filter females who are non-smokers
> female_non_smokers <- tips |>
+ filter(sex == "Female", smoker == "No")
> cat("Female non-smokers:", nrow(female_non_smokers), "\n")
Female non-smokers: 54
> head(female_non_smokers)
# A tibble: 6 × 7
  total_bill  tip sex  smoker day   time   size
<dbl>    <dbl> <chr> <chr> <chr> <chr> <dbl>
1      17.0  1.01 Female No    Sun   Dinner  2
2      24.6  3.61 Female No    Sun   Dinner  4
3      35.3   5     Female No    Sun   Dinner  4
4      14.8  3.02 Female No    Sun   Dinner  2
5      10.3  1.67 Female No    Sun   Dinner  ?
```