**# 1) Pocket Expenses**

day <- factor(c("Mon","Tue","Wed","Thu","Fri","Sat","Sun"),

levels = c("Mon","Tue","Wed","Thu","Fri","Sat","Sun"))

snacks <- sample(20:60, 7)

travel <- sample(50:100, 7)

pocket <- within(data.frame(day, snacks, travel), { total\_spend <- snacks + travel })

pocket

**Output :**

**A screenshot of a computer screen

AI-generated content may be incorrect.**

**# 2) SIP Log**

sip\_log <- data.frame(

month = month.abb[1:6],

amount = rep(5000, 6),

nav = seq(10.5, 11.5, length.out = 6)

)

sip\_log

**Output :**

**A screenshot of a computer

AI-generated content may be incorrect.**

**# 3) Cashbook**

dates <- seq(as.Date("2024-01-01"), by = "1 day", length.out = 10)

cashbook <- data.frame(

date = dates,

type = rep(c("Debit","Credit"), each = 5),

category = sample(c("Groceries","Fuel","Bills"), 10, replace = TRUE),

amount = sample(seq(100, 1000, 100), 10, replace = TRUE)

)

Cashbook

**Output :**

**A screenshot of a computer

AI-generated content may be incorrect.**

**# 4) Rain 2024**

set.seed(42)

rain\_2024 <- data.frame(

month = month.abb,

rain\_mm = sample(0:200, 12),

raindays = sample(0:31, 12, replace = TRUE)

)

rain\_2024

**Output :**

**A screenshot of a computer

AI-generated content may be incorrect.**

**# 5) Two-City Weekly Rainfall**

rain\_week <- data.frame(

day = rep(c("Mon","Tue","Wed","Thu","Fri","Sat","Sun"), 2),

city = rep(c("CityA","CityB"), each = 7),

rain\_mm = sample(0:30, 14, replace = TRUE)

)

rain\_week

**Output :**

**A screenshot of a computer

AI-generated content may be incorrect.**

**# 6) Stations + Readings**

stations <- data.frame(

station\_id = paste0("S",1:3),

altitude\_m = c(15, 200, 500),

zone = c("Coastal","Inland","Inland")

)

dates <- seq(as.Date("2024-06-01"), by = "1 day", length.out = 5)

readings <- expand.grid(date = dates, station\_id = stations$station\_id)

readings$rain\_mm <- sample(0:50, nrow(readings), replace = TRUE)

list(stations, readings)

**Output :**

**A screenshot of a computer

AI-generated content may be incorrect.**

library(dplyr)

**# 7) Select & Arrange**

cashbook %>% select(date, category, amount) %>% arrange(desc(amount)) %>% head(5)

**Output :**

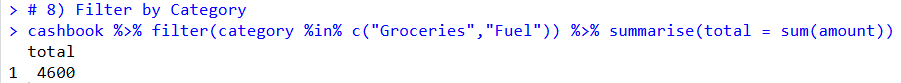
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AI-generated content may be incorrect.

**# 8) Filter by Category**

cashbook %>% filter(category %in% c("Groceries","Fuel")) %>% summarise(total = sum(amount))

**Output :**

****

**# 9) Monthly Averages (SIP)**

summarise(sip\_log, avg\_nav = mean(nav), total\_invested = sum(amount))

**Output :**

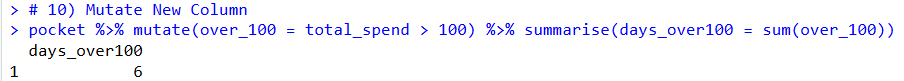
**A close-up of a word

AI-generated content may be incorrect.**

**# 10) Mutate New Column**

pocket %>% mutate(over\_100 = total\_spend > 100) %>% summarise(days\_over100 = sum(over\_100))

**Output :**

****

**# 11) Group & Summarise (Rainfall)**

rain\_2024 %>% filter(raindays > 0) %>% summarise(

total\_annual\_rain = sum(rain\_mm),

avg\_per\_rainy\_day = mean(rain\_mm/raindays, na.rm = TRUE)

)

**Output :**

**A close-up of a computer screen

AI-generated content may be incorrect.**

**# 12) Top Rainy Months**

rain\_2024 %>% arrange(desc(rain\_mm)) %>% slice(1:3)

**Output :**

A white background with black text

AI-generated content may be incorrect.

**# 13) Two-City Comparison**

rain\_week %>% group\_by(city) %>% summarise(mean\_rain = mean(rain\_mm))

**Output :**

**A white background with blue text

AI-generated content may be incorrect.**

**# 14) Wide → Long**

rain\_wide <- data.frame(day = c("Mon","Tue"), rain\_cityA = c(10,20), rain\_cityB = c(5,15))

tidyr::pivot\_longer(rain\_wide, cols = starts\_with("rain\_"), names\_to = "city", values\_to = "rain\_mm")

**Output :**

**A computer code with blue text

AI-generated content may be incorrect.**

**# 15) Left Join (Stations)**

readings %>% left\_join(stations, by="station\_id") %>%

group\_by(zone) %>% summarise(avg\_rain = mean(rain\_mm))

**Output :**

**A computer code with blue text

AI-generated content may be incorrect.**

**# 16) Largest Debit Transaction**

cashbook %>% filter(type=="Debit") %>% arrange(desc(amount)) %>% slice(1)

**Output :**

**A close-up of a text

AI-generated content may be incorrect.**

**# 17) Mutate with Conditions**

rain\_2024 %>%

mutate(season = case\_when(

month %in% c("Dec","Jan","Feb") ~ "Winter",

month %in% c("Mar","Apr","May") ~ "Pre-Monsoon",

month %in% c("Jun","Jul","Aug","Sep") ~ "Monsoon",

TRUE ~ "Post-Monsoon"

)) %>% group\_by(season) %>% summarise(total\_rain = sum(rain\_mm))

**Output :**

A white background with blue text

AI-generated content may be incorrect.

**# 18) Handling NA**

rain\_2024$rain\_mm[c(2,5)] <- NA

mean(rain\_2024$rain\_mm, na.rm = TRUE)

**Output :**

**A close-up of a math formula

AI-generated content may be incorrect.**

**library(ggplot2)**

**# 19) Line Chart**

ggplot(rain\_2024, aes(x=month, y=rain\_mm, group=1)) +

geom\_line(color="blue") + geom\_point(size=2) +

labs(title="Monthly Rainfall", x="Month", y="Rain (mm)") +

theme\_minimal()

**Output :**

A graph with a line and numbers

AI-generated content may be incorrect.

**# 20) Bar Chart**

cashbook %>% group\_by(category) %>% summarise(total=sum(amount)) %>%

ggplot(aes(x=category, y=total)) + geom\_col(fill="steelblue") +

labs(title="Spend by Category")

**Output :**

**A graph of a bar chart

AI-generated content may be incorrect.**

**# 21) Boxplot**

ggplot(pocket, aes(y=total\_spend)) + geom\_boxplot(fill="orange")

**Output :**

A graph with a line in the middle

AI-generated content may be incorrect.

**# 22) Grouped Bars**

ggplot(rain\_week, aes(x=day, y=rain\_mm, fill=city)) +

geom\_col(position="dodge")

**Output :**

**A graph of a number of blue and orange bars

AI-generated content may be incorrect.**

**# 23) Scatter – SIP NAV**

ggplot(sip\_log, aes(x=month, y=nav, group=1)) +

geom\_point(size=3) + geom\_line(linetype="dashed")

**Output :**

**A line graph with a line going up

AI-generated content may be incorrect.**

**# 24) Facet Plot**

readings %>% left\_join(stations, by="station\_id") %>%

ggplot(aes(x=date, y=rain\_mm, color=station\_id, group=station\_id)) +

geom\_line() + geom\_point() + facet\_wrap(~zone)

**Output:**

**A graph of a line and a line

AI-generated content may be incorrect.**

**# 25) Ordered Bars**

cashbook %>% group\_by(category) %>% summarise(total=sum(amount)) %>%

ggplot(aes(x=reorder(category, -total), y=total)) +

geom\_col(fill="darkgreen")

**Output :**

**A graph of a bar chart

AI-generated content may be incorrect.**

**# 26) Add Labels**

ggplot(rain\_2024, aes(x=month, y=rain\_mm, group=1)) +

geom\_line(color="purple") + geom\_point() +

labs(title="Rain Trend 2024", x="Month", y="Rainfall (mm)") +

theme\_minimal()

**Output :**

**A graph with blue lines

AI-generated content may be incorrect.**