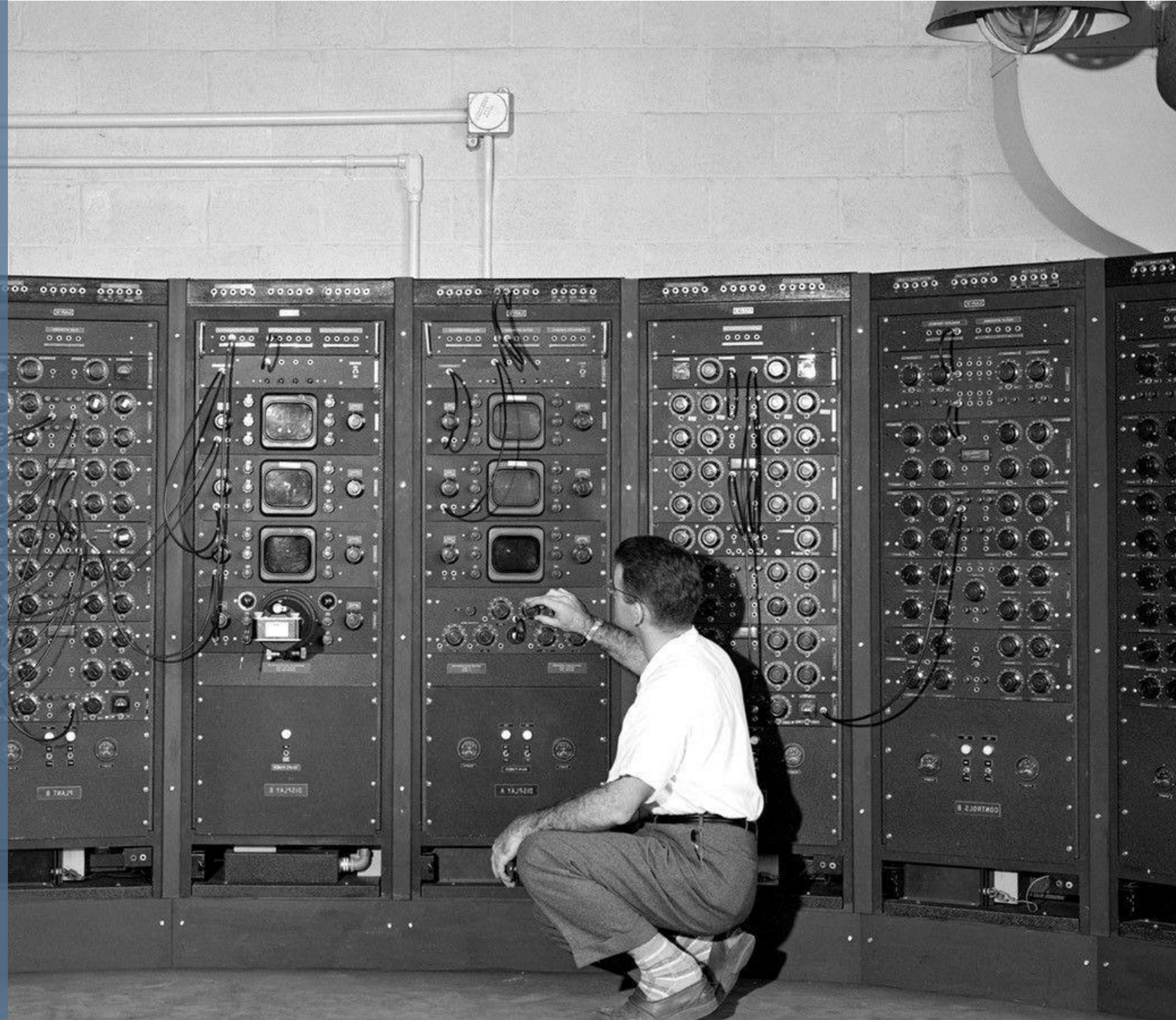
IF, LOOPS, FUNCTIONS

SESSION 2

FREDERIK MORTIER



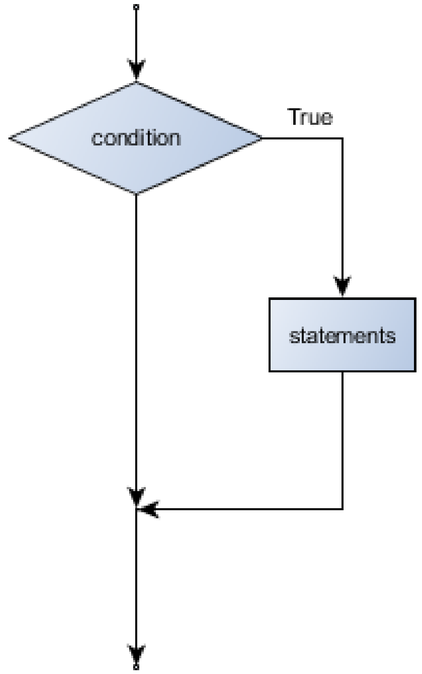
IF – THEN

CONDITIONAL STATEMENT

```
if (condition) {statement}
```

IF condition is TRUE

THEN perform statements



condition

- Evaluation: >, ==, %in%, …
- Outcome:
  TRUE or FALSE
  1 or 0

2 > 1 → TRUE (or 1)
2 <= 1 → FALSE (or 0)
1 == 2 → FALSE
1 != 2 → TRUE

0 → FALSE
1 → TRUE
2 → TRUE
5-5 → FALSE

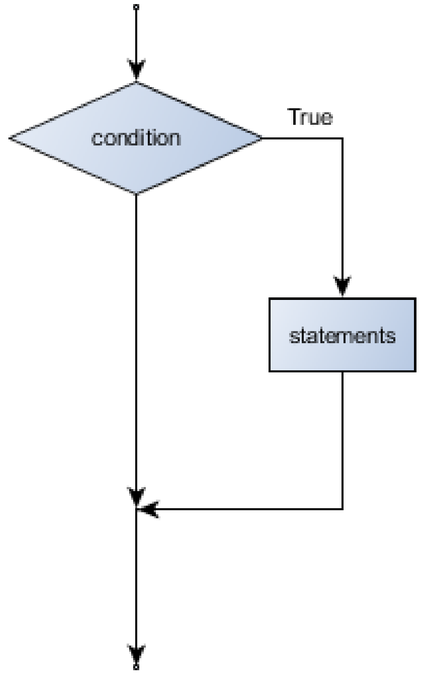
IF – THEN

CONDITIONAL STATEMENT

```
if (condition) {statement}
```

IF condition is TRUE

THEN perform statements



Statement
Print(“Hello world”)
Plot(x, y)
Data$total <- Data$d1 + Data$d2

IF – THEN – ELSE

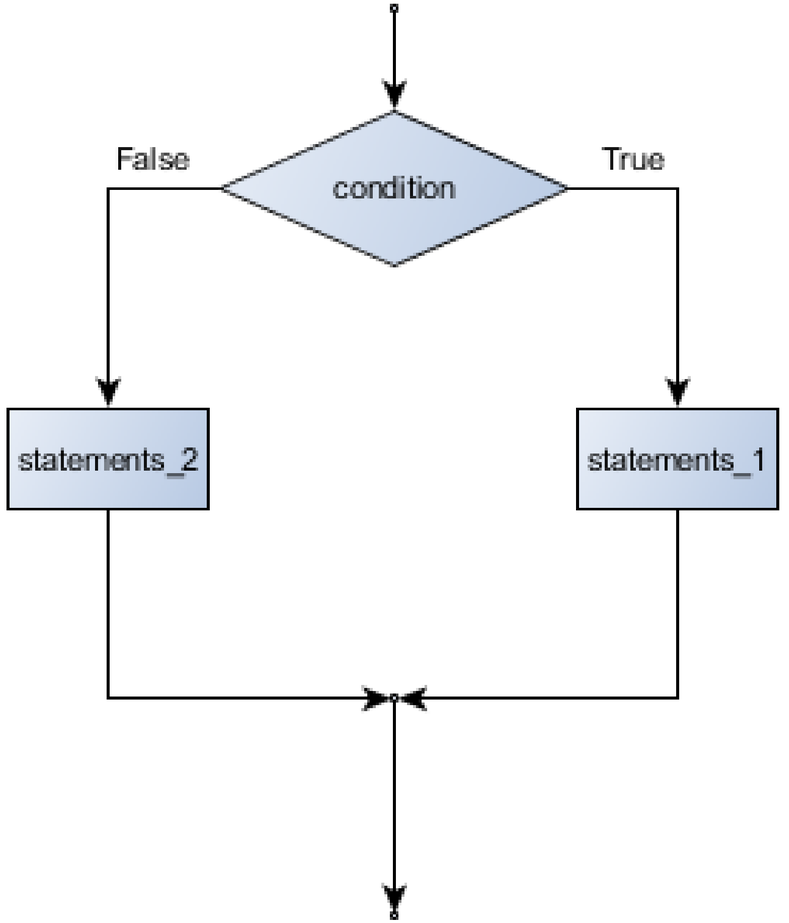
CONDITIONAL STATEMENT

```
if (condition) {statement 1}
    else {statement 2}
```

IF condition is TRUE

THEN perform statement 1

ELSE perform statement 2



LOOPS

REPEATING ACTIONS

```
Print(“Welcome”)
Print(“Welcome”)
Print(“Welcome”)
```

- For a set amount of times:

→ For loop

- For as long as a condition is met:

→ While loop

FOR LOOPS

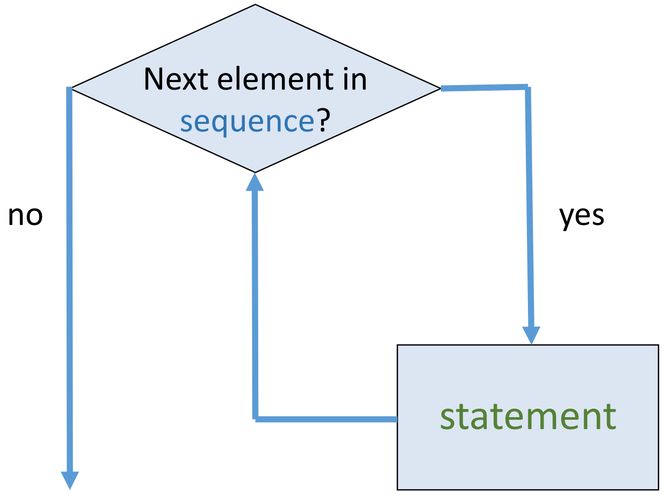
SET AMOUNT OF LOOPS

```
for (element in sequence) {statement}
```

FOR each element in the sequence

Perform statement

element can be used in sequence



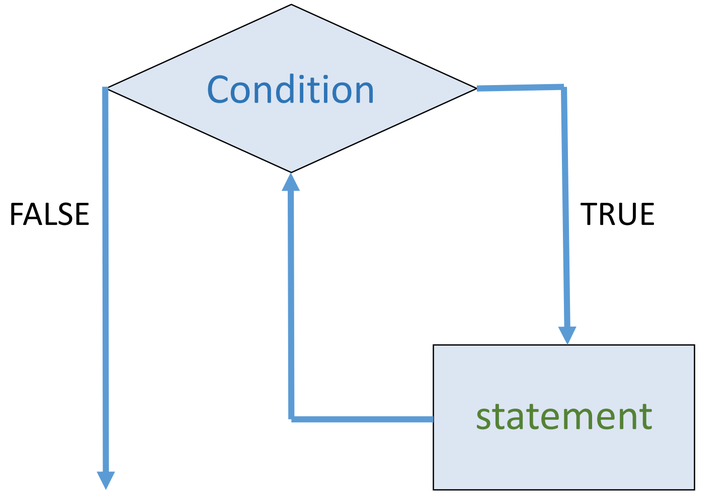
WHILE LOOPS

NUMBER OF LOOPS DEPENDENT OF A CONDITION

```
while (condition) {statement}
```

WHILE condition is TRUE

Perform statement



FUNCTION

PACKAGE A SET OF STATEMENTS IN ONE COMMAND

```
FuncName <- function(arguments) {statement}
```

Whenever the function is called

```
FuncName (arg1, arg2)
```

Perform statement

(return an output)

Arguments

Parameters that are **not fixed**

Passed when the function is called

- Define a function once
- Call it as many times as you want (below its definition)