



INTERMEDIATE R FOR FINANCE

Relational operators

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A relational example

```
> today <- 54.33  
> yesterday <- 55.24  
  
> today < yesterday  
[1] TRUE
```

<

Relational operators

Format	Description
<code>></code>	Greater than
<code>>=</code>	Greater than or equal to
<code><</code>	Less than
<code><=</code>	Less than or equal to
<code>==</code>	Equal
<code>!=</code>	Not equal

Relational operator examples

```
> one <- 1
```

```
> one == TRUE
```

```
[1] TRUE
```

```
> apple <- c(120.00, 120.08, 119.97, 121.88)
```

```
> apple < 121
```

```
[1] TRUE TRUE TRUE FALSE
```



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Let's practice!



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Logical operators

Logical operators

Operator	Description	Math Representation
&	And	Intersection
	Or	Union
!	Not	Negate

Logical operator examples

```
> datacamp <- 64.69  
  
> # And  
> (datacamp > 64) & (datacamp < 65)  
[1] TRUE
```

```
> apple <- 124  
  
> # Or  
> (datacamp > 63) | (apple > 126)  
[1] TRUE
```


Logical operators + subset()

```
> cash <- data.frame(  
  company    = c("A", "A", "A", "B", "B", "B", "B"),  
  cash_flow  = c(1000, 4000, 550, 1500, 1100, 750, 6000),  
  year       = c(1, 3, 4, 1, 2, 4, 5))
```

```
> # Filter for rows with low cash flow
```

```
> subset(cash, cash_flow < 1000)
```

	company	cash_flow	year
3	A	550	4
6	B	750	4

```
> # Filter for company A's low cash flow
```

```
> subset(cash, cash_flow < 1000 & company == "A")
```

	company	cash_flow	year
3	A	550	4



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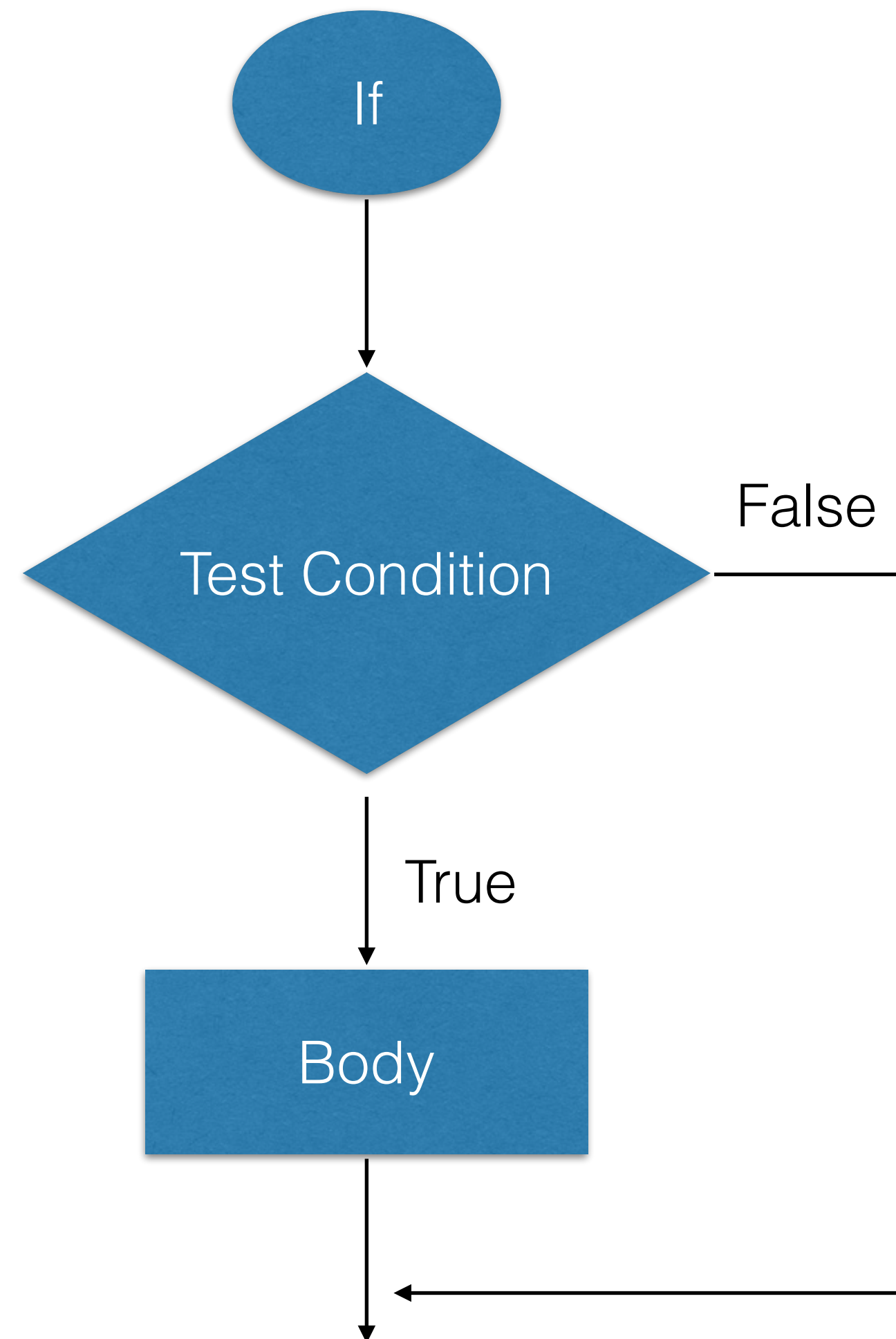
Let's practice!



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If statements

If statements



```
> if(condition) {  
  code  
}
```

Default if...

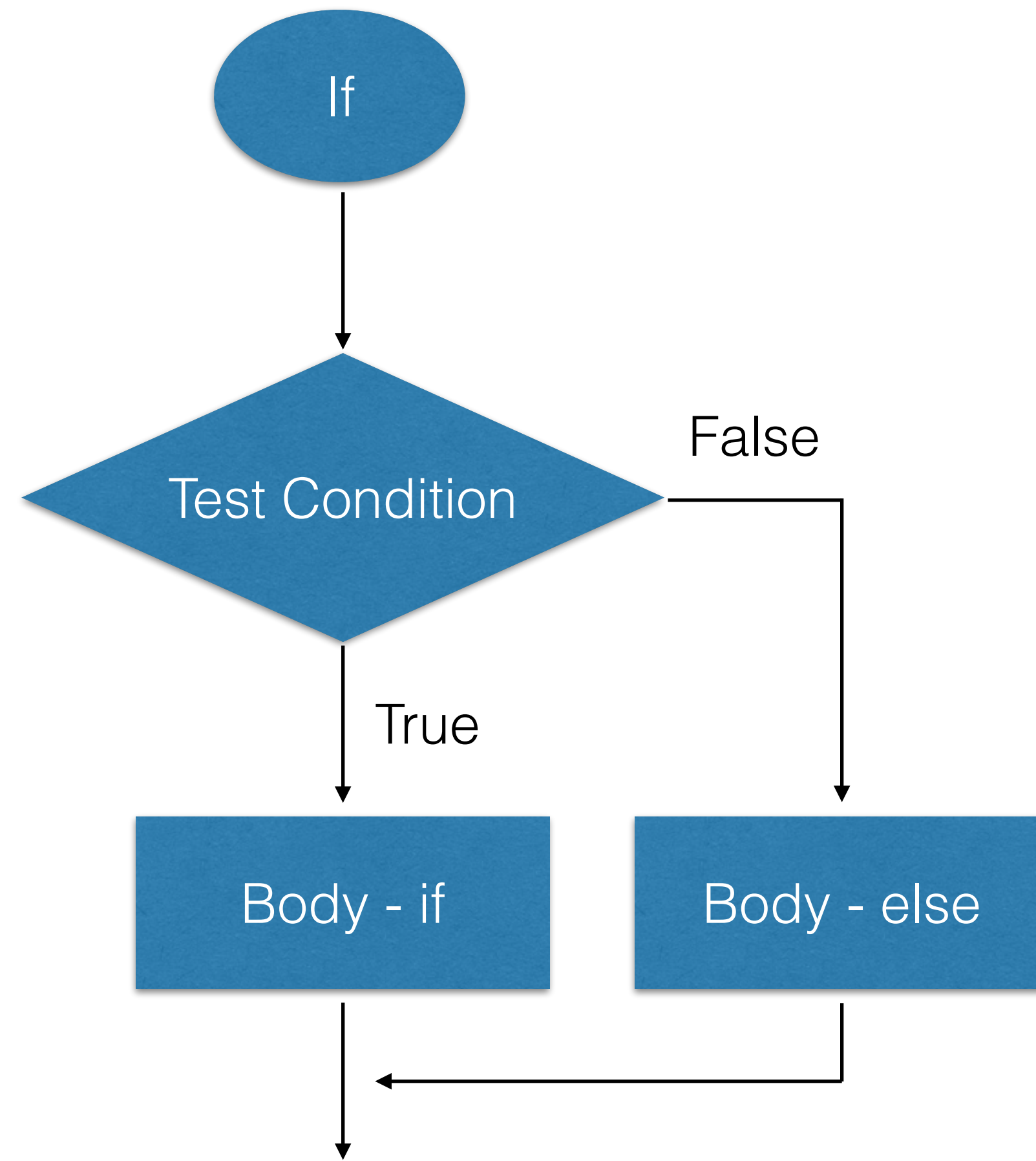
```
> default_chance <- runif(1)
> if(default_chance > .5) {
  print("Take action! Likely to default!")
}
[1] "Take action! Likely to default!"

> default_chance
[1] 0.9484406
```

```
> default_chance <- runif(1)
> if(default_chance > .5) {
  print("Take action! Likely to default!")
}

> default_chance
[1] 0.3954069
```

If-else



```
> if(condition) {  
  code if true  
} else {  
  code if false  
}
```

Default if...else...

```
> default_chance <- .4

> if(default_chance > .5) {
  print("Take action! Likely to default!")
} else {
  print("No problems here!")
}
[1] "No problems here!"
```

If-else if-else

```
> if(condition1) {  
  code if condition1 is true  
}  
else if(condition2) {  
  code if condition2 is true  
}  
else {  
  code if both are false  
}
```


Default if...else if...else

```
> default_chance <- .4

> if(default_chance > .5) {
  print("Take action! Likely to default!")
} else if(default_chance > .3 & default_chance <= .5) {
  print("Warning! Starting to get risky.")
} else {
  print("No problems here!")
}
[1] "Warning! Starting to get risky."
```



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Let's practice!