

Introduction to Scientific Computing for Biologists

ISCB20.09 - Introduction to R

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if statement

```
if(condition) {  
    # do something  
}
```

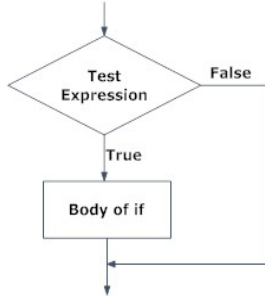


Fig: Operation of if statement

Figure 1: <https://www.datamentor.io/r-programming/if-else-statement/>

if...else statement

```
if(condition) {  
    # do something  
} else {  
    # do something  
}
```

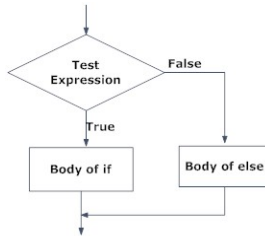


Fig: Operation of if...else statement

Figure 2: <https://www.datamentor.io/r-programming/if-else-statement/>

if..else if...else statement

```
if(condition-1) {  
    # do something  
} else if(condition-2){  
    # do something  
} else if(condition-3) {  
    # do something  
} else {  
    # do something  
}
```

ifelse function

- ▶ Vectors form the basic building block of R programming.
- ▶ Most of the functions in R take vector as input and output resultant vector.
- ▶ This vectorization of code, will be much faster than applying the same function to each element of the vector individually.
- ▶ Similar concept, there is a vector equivalent form of the `if...else` statement in R, the `ifelse()` function.

```
ifelse(condition, x, y)
```

for loop

```
for (val in sequence){  
  # do something  
}
```

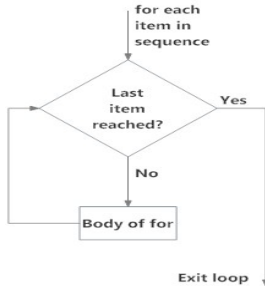


Fig: operation of for loop

Figure 3: <https://www.datamentor.io/r-programming/if-else-statement/>

while loop

```
while(condition){  
    # do something  
}
```

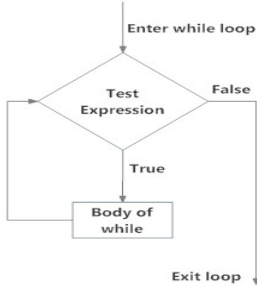


Fig: operation of while loop

Figure 4: <https://www.datamentor.io/r-programming/if-else-statement/>

break statement

```
if(condition){  
    break  
}
```

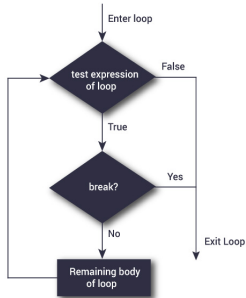


Figure 5: <https://www.datamentor.io/r-programming/if-else-statement/>

next statement

```
if(condition){  
  next  
}
```

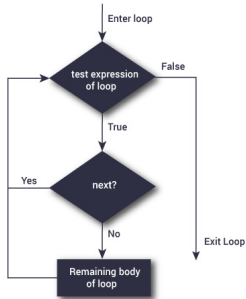


Figure 6: <https://www.datamentor.io/r-programming/if-else-statement/>

repeat loop

```
repeat {  
  # do something  
}
```

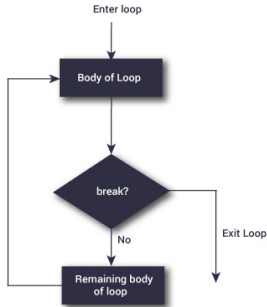


Figure 7: <https://www.datamentor.io/r-programming/if-else-statement/>