

Topics: Selection statement, relational & logical operators

Branching

Example: Bacteria B reproduces only when the temperature is above 12°C . The rate is a function of the temperature t in $^{\circ}\text{C}$: $(t - 12)^2$. Write a program to calculate the rate at which bacteria B reproduces given some temperature entered in $^{\circ}\text{F}$.

Simple if Construct

```
if condition
    statements to execute if condition is true
else
    statements to execute if condition is false
end
```

Even Simpler if Construct

```
if condition
    statements to execute if condition is true
end
```

The if Construct

```
if condition1
    statements to execute if condition1 is true
elseif condition2
    statements to execute if condition1 is false but condition2 is true
else
    statements to execute if all previous conditions are false
end
```

Rules of the if Construct

- At most one block of statements is executed. Execution then continues with the next executable statement following `end`
- There can be at most one `else` clause
- There can be any number of `elseif` clauses

Input statement

Syntax: `variable = input('prompt')`