

Create variables and store values.

```
tx.memory = {"my_number":42,"a_string":"Hello"}
tx.memory["key"] = "value"
```

Get values.

```
var my_number = rx.memory["my_number"]
var my_number = rx.memory.get("my_number", 42)
```

Update values.

```
tx.memory = {"my_number":849,"a_string":"Bye"}
tx.memory["key"] = "value"
```

```
# Direct access
# Use default value if unset
```

Test values.

0 == 0 (0 is equal to 0 true), 0 == 1 (0 is equal to 1 false), 0 < 1 (0 is less than 1 true)
 0 > 1 (0 is greater than 1 false), 0 <= 0 (0 is less than or equal to 0 true)
 3 >= 1 (3 is greater than or equal to 1 true)

Conditional Execution

```
var my_number := 31
if my_number == 30:
    tx.say = "is 30"
else:
    tx.say = "not 30"
```

Control Flow – For Loops

```
for <val> in <list>:
    <code will execute once for each item in list>
-- example --
tx.say = "Sight:"
for x in rx.sight:
    tx.say = str(tx.say, " ", x)
```

Control Flow – While Loops

```
while <test value>:
    <code to be run in the while loop>
-- example --
while true:
    <code here will execute forever>
-- example --
var run := true
while run == true:
    <code will only run once because we set run to false>
    run = false
```

Rover commands

tx.action = MOVE - causes the rover to move 1 space in the direction the rover is facing
 tx.action = TURN_LEFT - rotate the rover by 90 degrees to the left
 tx.action = TURN_RIGHT - rotate the rover by 90 degrees to the right
 tx.action = WAIT - skip a turn

A list of the tile types surrounding the robot is available in rx.sight. You can access a single value with rx.sight[0]

Order (sight order is from the bot's perspective)

rx.sight[0]: tile in front of the direction the bot is facing
 rx.sight[1]: tile to the bot's right
 rx.sight[2]: tile behind bot
 rx.sight[3]: tile to the bot's left

Values

0: Open space - White/Orange
 1: Wall - Red
 2: Goal – Green/Neon Green
 3: Start - Blue

Rover Message Variables

rx.memory: Dictionary – Key->Value store saved from the last move
 rx.tick: int – Current move of the game (1-1000)
 rx.sight: Array – The tiles surrounding the bot 0=head,1=right,2=back,3=left
 rx.worked: bool – Indicates whether the last action succeeded
 rx.bot_position – X,Y coordinates of the robot on the map
 rx.var goal_position – X,Y coordinates of the goal on the map

tx.memory: Dictionary – Key->Value store to save state between moves
 tx.say: String – Have the bot print this message
 tx.action: Action – Have the bot perform this action: MOVE, TURN_LEFT, TURN_RIGHT, WAIT