# (1) Simulate movement

# (2) Generate detection data

## Execution file(s)

`la\_MoveSims\_solitary.R`
OR `lb MoveSims group.R`

#### UNIX command

e.g., `Rscript --vanilla ./R/
1b\_MoveSims\_group.R hi 33 20`
 Arguments (in bold) are
 [density], [iter],
[group\_size] respectively\*.

# Output data location:

e.g., `Data/MovementSims/
simDat hi grp 20 33.csv`

## Execution file(s)

`2\_generateDetections.R`

### UNIX command

Arguments (in bold) are [density], [iter], [nTraps], [behav], [gSize] respectively.

# Requires input data:

`Data/MovementSims/simDat\_hi\_grp\_ 20\_33.csv` AND `Data/traps100.RData`\*

# Output data location:

e.g., 'Data/Detections/
ctDat hi grp 33 20 J100.csv'

## LEGEND

[behav] **sol**itary or **gr**ou**p** behaviour

[density] **hi**gh, **med**ium or **lo**w

[iter] iteration or replicate index (int)

[nTraps] no. of traps avail. for detection (100 or 25)

[gSize] group size if [behav] is `grp`

# (3) Get model estimates

Data preparation

Model analysis

## Execution file(s)

`3a\_analysisREM.R` OR
`3b\_analysisREST.R` OR
`3c\_analysisCTDS.R`

#### UNIX command

e.g., `Rscript --vanilla ./R/3a\_analysisREM.R hi
33 100 grp 20`

Arguments (in bold) are [density], [iter], [nTraps], [behav], [gSize] respectively.

## Requires input data:

'Data/Detections/ctDat hi grp 33 20 J100.csv'

# Output data location\*\*:

e.g., 'Data/Estimates/rem\_imperfectDet.csv'

### NOTES

\*Movement and population parameters in (1) and detection parameters in (2) are customisable within their respective execution files.

\*\*To record method-specific estimates in (3), create an empty .csv to store them. Run commented-out code block at end of execution file.