deMultiplexing

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Demultiplexing Assignment

Code developed for paired end reads in which reads and indexes are in seperate files. The following scripts will output write statistics and a graph of relative sample abundances for the demultiplexing.

Usage DeMultiAlgoArg.py [options]

Input flags Required -r1 [readfile1] -i1 [indexfile1] -r2 [readfile2] -i2 [indexFile2] Optional

-t [mean quality score threshold] Default: 25

Expected output from Test files

Write statisites
Records Read: 9
Matched Reads: 2
Below threshold: 1
unmatched indices: 2
bad reads(Ns): 3

Matched barcodes above threshold not found in indexes file: 1

Statistics defined

Records Read: Total number of reads processed in each file. All four files should have the same amount of lines, if not, the script will only read until your shortest file.

bad Reads: N found in barcode of either of the 2 index reads

Below Threshold: Average quality scores of each index read does not surpass threshold. No N's in barcode though

unmatched indices: Indexes don't match. Passes threshold and N tests stated above.

___Not found in indexes file:___ Index of forward read not found in indexes.txt input file. Passes all tests above.

Matched Reads: Passes all above test. Read written to respective sample with forward and reverse written seperately.

```
## Parsed with column specification:
## cols(
##
       Reads = col_double(),
##
       Sample = col_character()
## )
     10.0%
                                                                               Sample
                                                                                     A10Forward
                                                                                                     A8Reverse
                                                                                                                       C10Forward
                                                                                     A10Reverse
                                                                                                     B10Forward
                                                                                                                       C10Reverse
                                                                                     A11Forward
                                                                                                     B10Reverse
                                                                                                                       C1Forward
                                                                                     A11Reverse
                                                                                                     B1Forward
                                                                                                                       C1Reverse
     7.5%
                                                                                                                       C2Forward
                                                                                     A12Forward
                                                                                                     B1Reverse
                                                                                     A12Reverse
                                                                                                     B2Forward
                                                                                                                       C2Reverse
 Relative Frequency
                                                                                     A1Forward
                                                                                                     B2Reverse
                                                                                                                       C3Forward
                                                                                     A1Reverse
                                                                                                     B3Forward
                                                                                                                       C3Reverse
     5.0%
                                                                                     A2Forward
                                                                                                     B3Reverse
                                                                                                                       C4Forward
                                                                                     A2Reverse
                                                                                                     B4Forward
                                                                                                                       C4Reverse
                                                                                     A3Forward
                                                                                                     B4Reverse
                                                                                                                       C7Forward
                                                                                     A3Reverse
                                                                                                     B7Forward
                                                                                                                       C7Reverse
     2.5%
                                                                                     A5Forward
                                                                                                     B7Reverse
                                                                                                                       C9Forward
                                                                                                                       C9Reverse
                                                                                     A5Reverse
                                                                                                     B8Forward
                                                                                                                       unMatchedForward
                                                                                     A7Forward
                                                                                                      B8Reverse
                                                                                     A7Reverse
                                                                                                     B9Forward
                                                                                                                       unMatchedReverse
     0.0%
                                                                                     A8Forward
                                                                                                      B9Reverse
```

Figure 1: Relative abudance of reads mapping to each sample.

Sample