Untitled

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11/13/2017

```
#This is the script I will use to actually run all the functions that I have mad

#install packages I will need:
#install.packages("ggplot2")

#set working director
setwd("~/Desktop/Bowdoin Senior Fall/Ind. Study/R Functions")
#now source all functions so they can be utilized
source("all.nuc.plot.R")
source("check.duplicates.R")
source("delete.emptyFrames.R")
source("distance.plot.R")
source("distance.vec.R")
source("frame.matrix.R")
source("frames.together.bar.R")
source("Functions.EmptyFramesRemoved.R")
source("Functions.Updated.R")
source("get.indeces.frame.R")
source("intensity.mat.R")
source("mean.plot.R")
source("nucleus.matrix.R")
source("num.nuc.frame.R")
source("intensities.boxplot.R")
source("intensities.dotplot.R")
source("intensities.violinplot.R")
source("plot.nuc.R")
source("plot.tot.view.R")
source("prop.no.paired.R")
source("time.together.perNuc.R")
source("time.together.total.R")
source("total.nuc.matrix.R")

#read in data set that contains nucleus info
data.set = read.table("CellCycle1.txt", header=TRUE, sep="\t")
data.set = na.omit(data.set)

frame.numbers = delete.emptyFrames(data.set)
object.numbers = data.set[,2]
fish.count = data.set[,3]
x.locs = data.set[,4]
y.locs = data.set[,5]

#read in data set that contains child (spots) info
data.set.2 = read.table("CellCycle1Spots2.txt", header=TRUE, sep="\t")
data.set.2 = na.omit(data.set.2)

frame.numbers.2 = delete.emptyFrames(data.set.2)
```

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x.locs.spots = data.set.2[,2]
y.locs.spots = data.set.2[,3]
integrated.intens = data.set.2[,4]
parent.nuc = data.set.2[,5]

vec = c(6,12,20,27,33,35,37,41,45,51)
for(i in vec)
{
  working.mat = nucleus.matrix(i, 4, 4, 23, 15)
  print(working.mat)
}
```

```
##                X        Y # Children
## Frame4  490.9423 51.46482          2
## Frame5        NA       NA         NA
## Frame6        NA       NA         NA
## Frame7  490.9423 51.46482          2
## Frame8        NA       NA         NA
## Frame9        NA       NA         NA
## Frame10 488.7614 46.16161          2
## Frame11 489.6667 44.46212          2
## Frame12       NA       NA         NA
## Frame13 485.0700 45.05934          3
## Frame14       NA       NA         NA
## Frame15       NA       NA         NA
## Frame16       NA       NA         NA
## Frame17 484.0617 39.67607          2
## Frame18 482.5678 37.93798          2
## Frame19       NA       NA         NA
## Frame20       NA       NA         NA
## Frame21 481.7112 37.56531          2
## Frame22 481.9736 41.04970          2
## Frame23 483.3976 45.81419          3
##                X        Y # Children
## Frame4  18.42721 77.58503          2
## Frame5        NA       NA         NA
## Frame6  20.00129 75.89974          2
## Frame7  18.42721 77.58503          2
## Frame8  17.65814 75.77793          2
## Frame9  17.45674 74.66525          2
## Frame10       NA       NA         NA
## Frame11       NA       NA         NA
## Frame12       NA       NA         NA
## Frame13       NA       NA         NA
## Frame14       NA       NA         NA
## Frame15       NA       NA         NA
## Frame16       NA       NA         NA
## Frame17       NA       NA         NA
## Frame18       NA       NA         NA
## Frame19       NA       NA         NA
## Frame20       NA       NA         NA
## Frame21       NA       NA         NA
## Frame22       NA       NA         NA
## Frame23       NA       NA         NA
```

```
##                X         Y # Children
## Frame4  436.6289 111.17552          2
## Frame5  435.7011 105.32602          2
## Frame6  434.2759 106.55992          2
## Frame7  436.6289 111.17552          2
## Frame8  433.1241 106.14866          2
## Frame9  433.1103 105.80912          1
## Frame10 434.5471 106.17815          2
## Frame11 434.3195 104.22473          2
## Frame12 433.0811 103.51129          2
## Frame13 431.1703 103.53837          2
## Frame14 431.3456 102.28835          2
## Frame15 432.3162 101.84683          1
## Frame16 430.8227 101.17057          1
## Frame17 427.5850 101.89921          1
## Frame18 425.6294  98.62852          2
## Frame19 425.5504  99.02629          2
## Frame20 425.0558  99.34442          2
## Frame21 425.8942 100.38365          2
## Frame22 425.2083 103.36723          2
## Frame23 424.7696 109.65313          2
##                X        Y # Children
## Frame4  463.4222 127.9594          2
## Frame5        NA       NA         NA
## Frame6  462.9712 126.8600          2
## Frame7  463.4222 127.9594          2
## Frame8  461.6997 124.7588          2
## Frame9  462.8885 124.6444          2
## Frame10 463.7539 127.7272          2
## Frame11 463.0821 123.2839          2
## Frame12 463.8598 121.5901          2
## Frame13 462.6741 119.1323          2
## Frame14 466.1052 120.1903          2
## Frame15 464.0218 119.6562          2
## Frame16 463.1294 119.0308          2
## Frame17 462.5057 118.2518          3
## Frame18 460.5447 118.0214          2
## Frame19 458.7020 117.5486          3
## Frame20 459.2948 116.0085          2
## Frame21 459.9350 116.7487          2
## Frame22 461.8985 120.4225          2
## Frame23 462.2727 126.2188          2
##                X        Y # Children
## Frame4  351.3739 155.0290          1
## Frame5  348.2990 162.2783          1
## Frame6  350.5917 164.8591          2
## Frame7  351.3739 155.0290          1
## Frame8  349.4298 161.7009          2
## Frame9  348.3899 163.2675          2
## Frame10 360.1570 142.0468          0
## Frame11 349.0935 166.3379          3
## Frame12 345.8732 163.3408          2
## Frame13 347.0733 164.1661          2
## Frame14 346.5512 162.2427          2
```

```
## Frame15 346.6736 163.7189          2
## Frame16 346.3108 163.3740          2
## Frame17 343.4798 164.5850          2
## Frame18 340.1293 163.0766          1
## Frame19 339.0678 161.7955          3
## Frame20 338.5401 162.9198          3
## Frame21 339.8090 160.6299          3
## Frame22 340.1222 160.9596          2
## Frame23 339.8703 162.8670          2
##                X        Y # Children
## Frame4  469.8486 161.8145          2
## Frame5        NA       NA         NA
## Frame6  469.1829 163.5153          2
## Frame7  469.8486 161.8145          2
## Frame8  470.0306 159.4576          2
## Frame9  465.3058 162.5049          2
## Frame10 468.3466 163.0763          4
## Frame11 467.6558 162.9487          2
## Frame12 467.9225 162.5301          3
## Frame13 466.4648 160.8712          4
## Frame14 468.3174 159.2500          4
## Frame15 469.8780 159.6447          3
## Frame16 468.1530 158.2823          3
## Frame17 463.4759 156.7380          3
## Frame18 464.0253 158.3328          2
## Frame19 463.8696 158.8314          2
## Frame20 463.1250 156.1960          2
## Frame21 463.4020 157.1970          2
## Frame22 465.1093 158.3029          2
## Frame23 465.4050 161.3521          2
##                X        Y # Children
## Frame4  422.0104 170.5753          2
## Frame5  422.0531 168.2549          2
## Frame6  424.4490 171.8785          2
## Frame7  422.0104 170.5753          2
## Frame8  420.3737 172.6738          2
## Frame9  421.4006 174.6813          3
## Frame10 421.6663 173.5305          2
## Frame11       NA       NA         NA
## Frame12 422.3814 175.1887          2
## Frame13 425.2308 175.4133          2
## Frame14 424.5549 174.4530          2
## Frame15 422.5729 173.8489          2
## Frame16 422.7025 174.5102          3
## Frame17 420.2343 175.1223          2
## Frame18 417.3239 175.2558          2
## Frame19 417.4223 175.1458          2
## Frame20 420.1616 175.3765          2
## Frame21 419.6118 175.7655          2
## Frame22 419.0390 178.2244          2
## Frame23 418.4688 178.8134          2
##                X        Y # Children
## Frame4  391.5756 183.7126          2
## Frame5  391.0420 185.0592          2
```

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## Frame6  391.4198 183.3318          2
## Frame7  391.5756 183.7126          2
## Frame8  387.8315 185.6867          2
## Frame9  387.5537 184.8413          2
## Frame10 387.3413 185.6346          2
## Frame11       NA       NA         NA
## Frame12 388.2333 182.6253          2
## Frame13 388.4965 181.6630          2
## Frame14 388.7130 180.0930          3
## Frame15 386.8516 180.4089          2
## Frame16 388.3977 180.8220          2
## Frame17 385.8400 180.9767          2
## Frame18 383.7033 181.7572          2
## Frame19 381.3648 181.8835          3
## Frame20 381.8552 180.0863          2
## Frame21 381.5871 176.6294          3
## Frame22 381.8042 178.9688          3
## Frame23 382.1359 180.7427          2
##                X        Y # Children
## Frame4  333.0489 199.4188          2
## Frame5  332.9214 201.1851          2
## Frame6  334.7441 200.6946          2
## Frame7  333.0489 199.4188          2
## Frame8  333.3730 199.3308          2
## Frame9  332.3151 200.4344          2
## Frame10 332.1093 200.8726          2
## Frame11 331.3031 200.2304          2
## Frame12 331.3179 200.0612          2
## Frame13 329.7347 199.8950          2
## Frame14 330.2108 199.7414          2
## Frame15 330.3156 201.0355          2
## Frame16 328.8703 200.6230          2
## Frame17 327.2184 202.2512          2
## Frame18 322.5797 202.9512          2
## Frame19 322.5756 200.1366          2
## Frame20 321.1455 202.0300          3
## Frame21 320.9578 200.7788          2
## Frame22 320.9272 200.2872          2
## Frame23 320.3514 203.7401          2
##                X        Y # Children
## Frame4  453.9643 229.2143          0
## Frame5        NA       NA         NA
## Frame6        NA       NA         NA
## Frame7  453.9643 229.2143          0
## Frame8        NA       NA         NA
## Frame9        NA       NA         NA
## Frame10       NA       NA         NA
## Frame11       NA       NA         NA
## Frame12       NA       NA         NA
## Frame13       NA       NA         NA
## Frame14       NA       NA         NA
## Frame15       NA       NA         NA
## Frame16       NA       NA         NA
## Frame17       NA       NA         NA
```

```
## Frame18       NA       NA         NA
## Frame19       NA       NA         NA
## Frame20       NA       NA         NA
## Frame21       NA       NA         NA
## Frame22       NA       NA         NA
## Frame23       NA       NA         NA
```

```
#total.nuc.matrix = function(nuc.num, ref.frame, start.frame, end.frame, range)
```