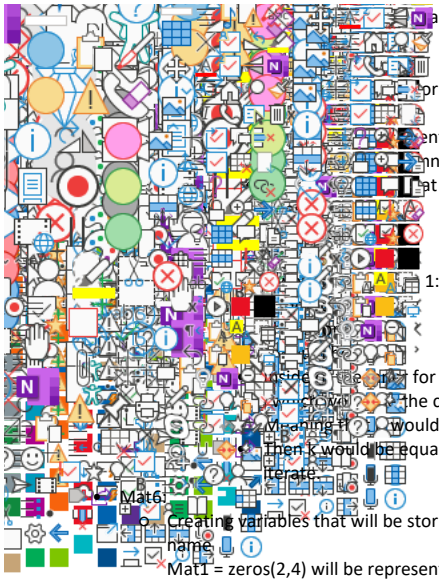
Programming Assignment 1

Sunday, February 12, 2023 10:38 PM

Pseudocode: The coding language is MatLab

Part 1:

- Mat1:
  - Creating variables that will be storing the 7 letter for my name and c for 5 letters for my last name
  - Having a print statement in display the name
  - Mat1 = zeros(s,s) will be representing the zeros starting index position
  - K would be 1 since it's starting at 1
  - It would be a nested for loop.
    - Outter for loop
      - For the columns
      - i would be equal to 1:s
    - Inner is for loop
      - This is for rows
      - j would be 1:s
      - Inside of the inner for loop will be the Mat1 and that would have parameters of i which would be the columns and and j for the rows.
      - Meaning that it would all be equal to k
      - Then k would be equal to k + 1 since it's increasing by each time that it's being iterate.
- Mat2:
  - Creating variables that will be storing the 7 letter for my name and c for 5 letters for my last name
  - Having a print statement in display the name
  - Mat1 = zeros(s,c) will be representing the zeros starting index position
  - K would be 2 since it's starting at 2
  - It would be a nested for loop.
    - Outter for loop
      - For the rows
      - i would be equal to 1: c
    - Inner is for loop
      - This is for columns
      - j would be 1:s
      - Inside of the inner for loop will be the Mat1 and that would have parameters of i rows which would be the rows and and j for the columns.
      - Meaning that it would all be equal to k
      - Then k would be equal to k + 3 since it's increasing by each time that it's being iterate.
- Mat3:
  - Creating variables that will be storing the 7 letter for my name and c for 5 letters for my last name
  - Having a print statement in display the name
  - Mat1 = zeros(s,c) will be representing the zeros starting index position
  - K would be 0.2 since it's starting at 0.2
  - It would be a nested for loop.
    - Outter for loop
      - For the columns
      - i would be equal to 1: s
    - Inner is for loop
      - This is for rows
      - j would be 1:c
      - Inside of the inner for loop will be the Mat1 and that would have parameters of i which would be the columns and and j for the rows.
      - Meaning that it would all be equal to k
      - Then k would be equal to k + 0.2 since it's increasing by each time that it's being iterate.
- Mat4:
  - Creating variables that will be storing the 7 letter for my name and c for 5 letters for my last name
    Mat1 = zeros(4,6) will be representing the zeros starting index position and they are representing the rows and columns
  - K would be 10 since it's starting at 10
  - It would be a nested for loop.
    - Outter for loop
      - For the rows
      - i would be equal to 1: 4
    - Inner is for loop
      - This is for columns
      - j would be 1:6
      - Inside of the inner for loop will be the Mat1 and that would have parameters of i which would be the rows and and j for the columns.
      - Meaning that it would all be equal to k



al to k - 2 since it's increasing by each time that it's being

oring the 7 letter for my name and c for 5 letters for my last

enting the zeros starting index position and they are
ns
at -6

1: 6

for loop will be the Mat1 and that would have parameters of
the columns and j for the rows.
would all be equal to k
Then k would be equal to k + 1.5 since it's increasing by each time that it's being iterate.

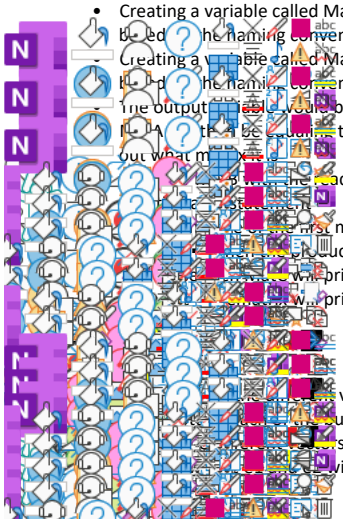
Mat6:
- Creating variables that will be storing the 7 letter for my name and c for 5 letters for my last name
  Mat1 = zeros(2,4) will be representing the zeros starting index position and they are representing the rows and columns
  - K would be –10 since it's starting at –10
  - It would be a nested for loop.
    - Outter for loop
      - For the rows
      - i would be equal to 1: 4
    - Inner is for loop
      - This is for columns
      - j would be 1:2
      - Inside of the inner for loop will be the Mat1 and that would have parameters of i which would be the rows and j for the columns.
      - Meaning that it would all be equal to k
      - Then k would be equal to k + 10 since it's increasing by each time that it's being iterate.
- Using writematrix is for writing a matrix to a file
  - So do this for all 6 matrices

Part 2:

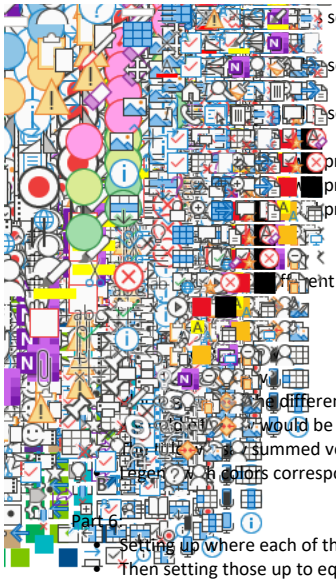
- Setting up a print statement displaying the matrices will be added by A + B
- Creating a variable called MatA would be equaling the input for the entering the first matric that's based on the naming convention is part 1
- Creating a variable called MatB would be equaling the input for the entering the first matric that's based on the naming convention is part 1
- The output variable would be the user to enter the file output name with the name_ p2 etc
- MatA will then be equaling to the readmatrix method with the parameters of MatA so it can figure out what matrix it is
- Same for MatB with the readmatrix method but with MatB inside of it
- Creating an if statement
  - If the size of the first matrix is equal to the size of the second matrix
    - Then the product of the two which is MatC will eqaul MatA + MatB
  - Else then MatC will print out an error statement
- Then the writematrix will print the MatC output to a file

Part 3:

- Setting up a print statement displaying the matrices will be added by A * B so a dot product
- Creating a variable called MatA would be equaling the input for the entering the first matric that's
  - ed he naming convention is part 1
- Creating a variable called MatB would be equaling the input for the entering the first matric that's
  - p he naming convention is part 1
- The output be the user to enter the file output name with the name_ p3 etc
- A to the readmatrix method with the parameters of MatA so it can figure
  out what m
  - the readmatrix method but with MatB inside of it
  -
- matrix is equal to the size of the second matrix
- uct of the two which is MatC will eqaul MatA times MatB
- print out an error statement
- print the MatC output to a file



vectors
ut since I didn't know how you'd like it, I just put it all on one
s on the graph will each have a color
ith the title describing the graph



so rdots is the r dot s and that is r(1) * s(1) + r(2) * s(2) which is the

so udotv is the r dot s and that is u(1) * v(1) + u(2) * v(2) which is the

so sdotv is the r dot s and that is s(1) * v(1) + s(2) * v(2) which is the

print the rdots output to a file
print the udotv output to a file
print the sdotv output to a file

ff ent vectors

d different results on the same graph since it wasn't specific
would be e2
summed vectors
h colors corresponding to the correct summed vector

Part 6

- setting up where each of the Mat numbers are being assigned to the correct file name
- Then setting those up to equal those variables from Part 1 and then transposing each of the different ones
- Finally using the writematrix to write the matrices to the file