Polytechnic Tutoring Center
Midterm 1 REVIEW – CS1133, Spring 2021

Disclaimer: This mock exam is only for practice. It was made by tutors in the Polytechnic Tutoring Center and is not representative of the actual exam given by the Academic Department.

**Question 1**

```matlab
clear; clc;
% You can copy and paste the matrices GG and BG
GG = given;
BG = given;
quizDelete = 3; % index of the quiz grade to be deleted
GRADES = [GG(:,1:2) BG(:,1) GG(:,3:end) BG(:,end)];
% Note: when indexing, row index always comes before column index
disp(GRADES);
% You can delete a value from an array by setting it equal to an empty % vector
GRADES(:,quizDelete) = [];
Avg = mean(GRADES(:,1:end-1),2);
% Note: Avg = sum(SCORES(:,1:end-1),2)/size(SCORES(:,1:end-1),2)
% also works
GRADES(:,end) = Avg;
disp(GRADES);
```

**Question 2**

```matlab
clear; clc; format short;
nVal = input('Enter an odd number: ');

OddVec = 1:nVal; % Creating vector of odd number length using the colon % operator
nRows = nVal+1; % Row dimension for new matrix
nCols = nVal;

theMiddle = round(nVal/2); % Finding middle column
RowIdx = 2:nRows;

MTX = zeros(nRows,nCols);
MTX(1,:) = OddVec; % First row equal to vector
MTX(RowIdx, theMiddle) = OddVec; % Middle column equal to vector
disp(MTX);
```

**Question 3**
To create STATS

clear; clc;
nPlayers = 15;
goodAmtPts = 30;
foulLimit = 4;
goodAmtRe = 23;
IDs = randi([1,121],nPlayers,1);
Points = randi([1,goodAmtPts],nPlayers,1);
Rebounds = randi([1,goodAmtRe],nPlayers,1);
Fouls = randi([1,foulLimit],nPlayers,1);
STATS = [IDs Points Rebounds Fouls];

% The values to compare player stats to
minPts = 25;
minRe = 12;
maxRe = 15;
maxFoul = 2;

% Set the column number for each piece of information equal to a variable
colID = 1;
colPTS = 2;
colRe = 3;
colFoul = 4;

% the conditions for points, rebounds, and fouls
% at least means greater than or equal to
EnoughPts = STATS(:,colPTS)>=minPts;
EnoughRe = (STATS(:,colRe)>=minRe) & (STATS(:,colRe)<=maxRe);
OkFoul = STATS(:,colFoul)<=maxFoul;
AllCons = (EnoughPts & EnoughRe) | (EnoughRe & OkFoul) | ... (EnoughPts & OkFoul);

BestPlayers = STATS(AllCons,colID)'; % gets the values of the player IDs % from the rows where the condition "AllCons" is true
disp(['The best players on the list are: ' num2str(BestPlayers)]);