

Homework 8 MATLAB: *for loop cont.*

Q1) The difference between the for loops, the first for loop changes the assigned value to the variable x during each iteration of the for loop. The x variable starts with 1, then changed to 2^2 , next changed to 3^2 , etc. The for loop disposes of each output for i^2 . Rather than the second for loop does that does save each value of i^2 inside a row vector. With each iteration of the second loop, it saves i^2 inside its corresponding index. First index has 1^2 , second index has 2^2 , and so on.

Q2)

```
% Assignment 8 Q2
```

```
for j = 1:6
```

```
    for k = 1:6
```

```
        t(j, k) = 2*j-3*k;
```

```
    end
```

```
end
```

```
t
```

```
T = inv(t);
```

```
T
```

Output

```
T =
```

Columns 1 through 4:

```
1.7871e+14 -2.0119e+13 1.6378e+14 -7.7931e+13
2.5493e+14 5.7396e+14 -3.3977e+15 2.2232e+15
-1.8586e+15 -8.0476e+14 6.5512e+15 -3.1172e+15
9.6722e+14 -1.1788e+15 0 0
1.7282e+15 2.5766e+15 -6.8814e+15 8.4842e+14
-1.2704e+15 -1.1469e+15 3.5642e+15 1.2351e+14
```

Columns 5 and 6:

```
-1.1486e+15 9.0413e+14
2.1762e+15 -1.8306e+15
-9.0677e+14 1.3624e+14
-1.2090e+14 3.3248e+14
1.6006e-02 1.7282e+15
1.6616e-02 -1.2704e+15
```

Q3)

% Assignment 8 Q3

x = -2: 0.1:2

y = -2:0.1:2

for i = 1:41

for j = 1:41

z(i,j) = x(i)*exp(-(x(i)^2)-(y(j)^2));

end

end

surf(z)

Output

