CSE 232- Numerical Analysis Laboritory
Lab 1

1. Installl matlab on you computer or work on online octave(open source).
2. Write the first program in matlab.

```
//First program
disp("Hello World");
```

3. Area of cylender
   Surgace area = $2\Pi r^2 + h(2\Pi r)$
   Area of Rectangle= h*w

```
%Second program
h =5
w = 2
area = h*w

% clear all variable
clear all
% Clear screen
clc

%Third program
h =5;  %don't show result in comand line
w = 2;
S_area = 2*pi*r^2 + h*2*pi*r
```

4. For Loop

```
% First for loop
    for i = 1: 0.1: 2
        x = 2 * i
    end


% second for loop
v = input("Please enter vector>")
%i = 1;
finish = length(v);

for i=1:1:finish
        disp(v(i)^2)
end
```

5. While loop

```
    %while loop
    n=1;
```

```
while log(n)<=2
        n=n+1;
end
disp(n);
log(2)
log(8)
```

6. Array and Matrix

```
v= 0:1:5  % Vector
A = [1 2 3; 4 5 6]  % matrix
A(1,2) % access data
A(1,2) = 10
A = [1 2 3 4 65 3 12;
      4 5 6 45 6 7 9]
A(1:2,1:3) % slice the matrix
A(2,:) % second row and all column
A(:,2) % All row from second column
A(3,:) = 1:1:7  % add new row
A(:,7) = [1;1;1]
reshape(A,1,21)
reshape(A,7,3)
% Transpose Matrix
A'
```

7. Plot Graph

```
%plot Graph
clear all
clc
x=[-2 -1 0 1 2]
y= 3*x
plot(x,y)
```

8. Plot Graph using linspace

```
%plot Graph
clear all
clc
x=linspace(-2,2)
y= x.^2
plot(x,y)
```

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https://www.youtube.com/playlist?list=PL60D54836FB8893F0