1. a

```
% this is a program to find magnitude and angle in degrees and radianas

A=[3,2];
O=[0,3; 0,2];
quiver(0,0,3,2)
MAGNITUDE=norm(A);
% atand -> Angle in Degree
% atan -> Angle in RAdians
ANGLE=atand(A(2)/A(1));
Angle2=atan(A(2)/A(1));
fprintf('Magnitude of Vector A =%f\n',MAGNITUDE);
fprintf('ANGLE OF VECTOR A= %f\n',ANGLE);
fprintf('ANgle in Radians= %f',Angle2);
```

B.

```
% this is a program to find the magnitude of a vector and
%angle with respect to x z and y

A=[2,3,4];
O=[0,2;0,3;0,4];
quiver3(0,0,0,2,3,4);
Magnitude=norm(A);
l=(A(1)/Magnitude);
n=(A(3)/Magnitude);
m=(A(2)/Magnitude);
Angle1=acosd(l);
Angle2=acosd(m);
Angle3=acosd(n);
fprintf('The MAgnitude of vector is:%f\n',Magnitude)
fprintf('The Angle with respect to X is:%f\n',Angle1)
fprintf('The Angle with respect to Z is:%f\n',Angle3)
fprintf('The Angle with respect to Y is:%f\n',Angle2)
```

C

```
%this is a program to perform cross and dot product and cosine
%and sine angle of two vectors.
A=[2,3,4];
B=[1,2,4];
Mag1=norm(A);
Mag2=norm(B);
C=dot(A,B);
D=[cross(A,B)];
fprintf('The Cross Product of A & B is:\n')
fprintf('\n %f',D)
fprintf('\n The Dot Product of A & B is:%f\n',C)
c=C/[(Mag1)*Mag2]; % Here c is the cos(Theta)
s=norm(D)/[Mag1 * Mag2]; % Here s is the sin(Theta)
fprintf('\n The Cos Angle between A & B is:%f',acosd(c))
fprintf('\n The Sine Angle between A & B is:%f',asind(c))
```