Gul e Hasnain lab 3 exercise

In [4]:
```
# ex - 1
radius = float(input("enter the radius(in meters): "))
angular_speed = 10
velocity = radius * angular_speed
print(velocity , "m/s")
```

```
enter the radius(in meters): 0.5
5.0 m/s
```

In [8]:
```
# Ex - 2
from math import pi
radius = float(input("enter the radius(in meters): "))
numberOfRevolution = float(input("enter number of revolution: "))
rpm = numberOfRevolution / 60
angular_speed = rpm * 2 * pi
linear_velocity = radius * angular_speed
print(linear_velocity, "m/s")
```

```
enter the radius(in meters): 5
enter number of revolution: 5000
2617.993877991494 m/s
```

In [30]:
```
# ex - 3
linear_velocity = float(input("enter the linear velocity (in m/s):
"))
radius = float(input("enter the radius (in cm): "))
radius_in_meter = radius / 100
angular_velocity = linear_velocity / radius_in_meter
print(angular_velocity, "rad/s")
```

```
enter the linear velocity (in m/s): 10
enter the radius (in cm): 30
33.333333333333336 rad/s
```

In [15]:
```
# ex - 4
linear_speed = float(input("enter the linear speed (in m/s): "))
diameter = float(input("enter the diameter (in cm): "))
radius_in_cm = diameter / 2
radius_in_meter = radius_in_cm / 100
angular_speed = linear_velocity / radius_in_meter
print(angular_speed, "rad/s")
```

```
enter the linear speed (in m/s): 10
enter the diameter (in cm): 50
40.0 rad/s
```