Q1

November 21, 2021

[15]:
```
%run lib.ipynb
```

[16]:
```
R = 0.0821
P = 5.95
T = 300

guess_V0 = R*T/P
print(guess_V0)
```

```
4.139495798319328
```

[17]:
```
a = 6.254
b = 0.05422
R = 0.0821
P = 5.95
T = 300
eps = 10**(-6)
def f(x):
    return P*x + a/x - (a*b)/(x**2) - P*b - R*T
x=guess_V0
root=newton_raphson(x,f)
print("Nearest root of the given function for the given value of x " + str(x) +␣
 ↪" is "+str(root))
```

```
Nearest root of the given function for the given value of x 4.139495798319328 is
3.9299487677798326
```

[ ]:
```

```