**PRACTICAL: 3**

**AIM: Implement Bayes Theorem using Python.**

Code:

def drug\_user(

prob\_th=0.8,

sensitivity=0.79,

specificity=0.79,

prevelance=0.02,

verbose=True):

p\_user = prevelance

p\_non\_user = 1-prevelance

p\_pops\_user = sensitivity

p\_neg\_user = specificity

p\_pops\_non\_user = 1-specificity

num = p\_pops\_user\*p\_user

den = p\_pops\_user\*p\_user+p\_pops\_non\_user\*p\_non\_user

prob = num/den

if verbose:

if prob > prob\_th:

print("The test-taker could be an user")

else:

print("The test-taker may not be an user")

return prob

print("Yash Karkhanis")

p=drug\_user(prob\_th=0.5, sensitivity=0.97, specificity=0.95, prevelance=0.005)

print("Probablity of the test-taker being a drug user is:", round(p,3))