```
#NAME:-NILESH RAMNATH SHIRSATH
#ROLL NO.75 SE ELECTRICAL
# Trapezoidal Method
def f(x):
    return  1/(1  +  x**2)
def trapezoidal(x0,xn,n):
    h = (xn - x0) / n
    integration = f(x0) + f(xn)
    for i in range(1,n):
        k = x0 + i*h
        integration = integration + 2 * f(k)
    integration = integration * h/2
    return integration
lower_limit = float(input("Enter lower limit of integration: "))
upper_limit = float(input("Enter upper limit of integration: "))
sub_interval = int(input("Enter number of sub intervals: "))
result = trapezoidal(lower_limit, upper_limit, sub_interval)
print("Integration result by Trapezoidal method is: %0.6f" % (result) )
```

```
Enter lower limit of integration: 0
Enter upper limit of integration: 2
Enter number of sub intervals: 4
Integration result by Trapezoidal method is: 1.103846
```