In [2]:
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#A Riemann sum is an estimation of the area under a curve using rectangles. The right
#Rn = f(a + Δx)Δx + f(a + 2Δx)Δx + · · · + f(a + nΔx)Δx = f(a + kΔx)Δx,k=1
#where Δx = b−a , is the width of the rectangles. Write a Python function to take in a
#f, two interval endpoints a and b, and the number of rectangles n, and then outputs t

#riwmann sum

def right_riemann_sum(f, a, b, n):
#figure out the width of the triangles
    delta_x = (b - a) / n

#the sum
    total = sum(f(a + k * delta_x) * delta_x for k in range(1, n + 1))

    return total

#use to get Rn
import math
result = right_riemann_sum(math.sin, 0, math.pi / 2, 1000)
print(result)
```

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1.0007851925466311
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