Assignment #13

1. Calculate the integrals using Low-Upper sums and Trapezoid methods. Compare obtained results. Use N=10 and N=100 subintervals.

$$\int_4^5 \ln(x-3)dx$$

a=2, b=10

$$\int_a^b \sqrt{100 - \sqrt{x}}\,dx$$

2. Use Recursive Trapezoid method to estimate integral by computing R(3,0). Estimate the error.

$$\int_0^1 \cos(x + x^3)dx$$

3. Use Romberg method to estimate integral by computing R(3,3)

$$\int_1^2 \frac{\sqrt{x^2 - 0,16}}{x}\,dx$$

$$\int_0^3 \arcsin\sqrt{\frac{x}{1+x}}\,dx$$

$$\int_0^{1,2} \frac{\sin(0,1x + 0,5)dx}{1,7 + \cos(x^3 + 3)}$$