

# Numerical Differentiation and Integration

1. WAP to find Numerical Differentiation with Newton Forward Differences (with error).
2. WAP to find Numerical Differentiation with Newton Backward Differences (with error).
3. WAP to find Numerical Differentiation with Central Differences (with error).
4. WAP to find Maxima & Minima Tabulated Functions.
5. WAP to find Numerical Integration with Newton-Cotes Quadrature Formula (with error).
6. WAP to find Numerical Integration with Trapezoidal Rule (with error).
7. WAP to find Numerical Integration with Simpson's  $1/3$  Rule (with error).
8. WAP to find Numerical Integration with Simpson's  $3/8$  Rule (with error).
9. WAP to find Numerical Integration with Boole's Rule (with error).
10. WAP to find Numerical Integration with Weddle's Rule (with error).
11. WAP to find Numerical Integration with Romberg Method (with error).
12. WAP to find Numerical Integration with Gauss Integration for  $n = 2$  (with error).
13. WAP to find Numerical Integration with Gauss Integration for  $n = 3$  (with error).