1. Consider the following table of students grades:

Name	Exam 1	Exam 2	Exam 3
Adam	67	74	69
Blair	83	68	78
Connie	54	62	57
Dawn	93	85	97
Eli	72	77	76
Fred	77	82	74
Greg	57	65	48
Hannah	82	87	80
Igor	96	94	97
Jane	69	72	71
Kathy	75	85	81
Lilly	64	58	70
Mark	79	85	72
Nancy	87	88	90
Owen	85	75	82
Patsy	71	74	76
Roger	79	90	83
Sam	45	34	37
Tina	58	62	57
Victor	72	77	86

a. Compute the mean and median for each of the exams, then compute the mean for each of the students and rank them.

b. Create a histogram for the Exam 1 dividing the scores into intervals of 10 points (0-9, 10-19, ..., 90-100).

2. Use the student package in Maple to analyze the following definite integral in several ways:

$$\int_1^3 x^4 \ln(x) dx.$$

a. Solve the integral exactly giving both its exact and decimal value.

b. Use the middlesum and middlebox procedures in the student package to approximate this integral with 10 subintervals and visualize the approximation. Evaluate the sum (decimal value) and compute the percent error between this approximation and the exact value.

c. Use the alternate integral approximation schemes of trapezoid rule and Simpson's rule in the student package to evaluate this integral and compute the percent error between these approximations and the exact value.