

**Problem 1.** Suppose that we have a function  $f(x)$  whose values are given by the following table.

$x$	0.0	0.2	0.4	0.6	0.8	1.0
$f(x)$	1.0	0.9	0.7	0.9	1.0	1.2

Use Simpson's Rule to approximate the value of  $\int_0^1 f(x)dx$  with  $n = 2$ .

**Problem 2.** Determine the value of the integral if it exists or else write DIVERGENT.

$$\int_0^1 \frac{1}{\sqrt{x}} dx$$