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ENG 382
Assignment 6

Answer			
	t	y	y'
1	0	1.4	1.96
2	0.1	1.596	2.747216
3	0.2	1.870721	3.899599
4	0.3	2.26068	5.710681
5	0.4	2.85175	8.818806
6	0.5	3.713630	14.791049

$$y = 1.4$$

$$y'_1 = 2t + y^2$$

$$y'_1 = 2 \times 0 + (1.4)^2$$

$$y'_1 = 0 + 1.96$$

$$y'_1 = 1.96$$

$$h = \text{step size} = 0.1$$

$$y_2 = y_1 + hy'_1$$

$$y_2 = 1.4 + 0.1 \times 1.96$$

$$y_2 = 1.4 + 0.196$$

$$y_2 = 1.596$$

$$y'_2 = 2t + y^2$$

$$y'_2 = 2 \times 0.1 + (1.596)^2$$

$$y'_2 = 0.2 + 2.547216$$

$$y'_2 = 2.747216$$

$$y_3 = y_2 + hy'_2$$

$$y_6 = y_5 + h y'_5$$

$$y_6 = 2.82125 + 0.1 \times 8.818806$$

$$y_6 = 2.82125 + 0.8818806$$

$$y_6 = 3.713630$$

$$y'_6 = 2 + 4y^2$$

$$y'_6 = 2 + 4 \cdot (3.713630)^2$$

$$y'_6 = 14.791049$$

Question 2