

Post test 3

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$$F(x) = 3x^3 + x^2 + x - 3 = 0$$

$$\epsilon = 10^{-9}$$

1. $x_n = 0,8 \quad x_{n+1} = 1$

2. $F(x_n) = 3(0,8)^3 + 0,8^2 + 0,8 - 3 = -0,024$

$$F(x_{n+1}) = 3(1)^3 + 1^2 + 1 - 3 = 2$$

3. $F(x_n) \cdot F(x_{n+1}) = -0,024 \cdot 2 = -0,048$

4.
$$x_t = x_n - F(x_n)(x_{n+1} - x_n) / (F(x_{n+1}) - F(x_n))$$
$$= 0,8 - (-0,024)(1 - 0,8) / (2 - (-0,024)) = 0,802371$$

5. $F(x_t) = 3(0,802371)^3 + 0,802371^2 + 0,802371 - 3 = -1,60887$

6. $F(x_t) - F(x_n) = -1,60887 - (-0,024) = -1,58487$

Iterasi	x_n	x_{n+1}	x_t	$F(x_n)$	$F(x_{n+1})$	$F(x_t)$	$F(x_n) \cdot F(x_t)$
1	0,8	1	0,802371	-0,024	2	-1,60887	+
2	0,802371	1	0,89047	-1,60887	2	0,80166	-
3	0,802371	0,89047	0,86117	-1,60887	0,80166	0,91875	-
4	0,802371	0,86117	0,84683	-1,60887	0,91875	0,38578	-
5	0,802371	0,84683	0,83822	-1,60887	0,38578	0,30766	-