- **Example**: Use the Interval Bisection method to find solutions accurate to within 10^{-3} for $f(x) = x^3 - 7x^2 + 14x - 6 = 0$ on the interval [1 , 3.2].
- **Solution:**
- Here: $a_0 = 1$ and $b_0 = 3.2$.
- Compute: $f(a_0) = f(1) = 1^3 - 7(1^2) + 14(1) - 6 = 2 > 0$. And $f(b_0) = f(3.2) = -0.11 < 0$. Since, $f(a_0) > 0$ and $f(b_0) < 0$, ∃ a solution in the interval $I_0 = [\, a_0, b_0]$.
- Now, we use the formula: $m_k = \frac{a_k + b_k}{2}$ to compute the middle point for the iteration number k, and check where is the root by comparing $f(a_k), f(m_k), f(b_k)$, until we obtain $f(m_k)$ within $10^{-3} = 0.001$.
- We present the calculation in the following table:

K	a_k	m_k	b_k	$f(a_k)$	$f(m_k)$	$f(b_k)$	$x_r \in [\ ,\ ]$
0	1	2.1	3.2	$2>0$	$1.79>0$	$-0.11<0$	$[2.1, 3.2]$
1	2.1	2.65	3.2	$1.79>0$	$0.55>0$	$-0.11<0$	$[2.65, 3.2]$
2	2.65	2.925	3.2	$0.55>0$	$0.086>0$	$-0.11<0$	$[2.925, 3.2]$
3	2.925	3.0625	3.2	$0.86>0$	$-0.054<0$	$-0.11<0$	$[2.925, 3.0625]$
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
9	2.99	$\boxed{3.000}195$	3.002	$1.96\times10^{-3}>0$	-1.95×10^{-4} $< 10^{-3}$	$-2.3\times10^{-3}<0$	$\boxed{x_r = 3.00}$