**Horner’s Method**

f(x) = an xn + an-1 xn-1 + … + a0

to check if α is the root perform a synthetic division with the polynomial.

For example:

x3-x-1=0

let α = 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2 | 1 | 0 | -1 | -1 |
|  |  | 2 | 4 | 6 |
|  | 1 | 2 | 3 | 5 |

As the last calaulation did not result in zero 2 is not the root of the polynomial.