Impedance matching on transmission line is quite important because of transmitting maximum power or electromagnetic waves from source to load. The impedance matching can be defined as to balance real part of the load impedance to characteristic impedance of the transmission line and fit the imaginary part to zero. In the event of mismatching the power transfer became decrease. A large number of impedance matching techniques took part in literature. In this study we propose a new multi-stepped real impedance matching technique which is named as Euler Method Real Impedance Matching Technique. In this technic, the reflection equation modelled into Euler function. Then each reflection coefficient of the steps of transmission line defined with Euler Polynomials. Therefore, the characteristic impedance of the steps are calculated. Additionally, we tried the matching method on an arbitrary mismatching problem. The \(50\) transmission line, matched to load of \(100+j50\) in three steps. Then results are reported and compared to mismatching case. The reflection can be decreased roughly 8-10 dB. Consequently the Euler Impedance Matching Method works successfully.