Personal Github: https://github.com/amitsachdeva45/SEPPersonal

Team Github: https://github.com/amitsachdeva45/SEPCalculatorTeamI

Function 5: Gamma Function

Definition:

It acts like a factorial operation from positive integers to real and even complex values of the argument. It was introduced by Euler

This function is divided into 2 parts:

1. For Integer value
2. For Real Value

Γ(a) = infinity for all negative integers I- as well as 0
Γ(a) = ∫∞ 0 t^(a−1) *exp(−t) dt, Re(a)>0

In general:

1) **Γ(a+1) = aΓ(a)**
2) **Γ(a) =∫∞ 0 t^(a−1)exp(−t)dt, Re(a)>0**
3) **Γ(1/2) =√π Γ(a)Γ(1−a)=π/sin(πa)**

Domain: Gamma function is defined for all Real Numbers excluding negative integers and 0.

Codomain: It ranges from -infinity to infinity

More about this function:

1) It is not periodic

Graphical Representation of gamma function: