- **General Calculations**
- **For Class**

For the Exponential Integral defined by :

$$\mathtt{Ei[x]} = -\int_{-x}^{\infty} \frac{\mathtt{Exp[-u]}}{\mathtt{u}}\, \mathtt{du}$$

For desired precision ϵ (for example 10^{-6}, 10^{-10}, 10^{-20})

If x < Abs[Ln[ϵ]], use

$$\gamma + \mathtt{Ln[x]} + \sum_{n=1}^{\infty} \frac{x^n}{n * n!} \ \mathtt{until} \ \frac{x^n}{n * n!} < \epsilon$$

If x >= Abs[Ln[ϵ]]

$$\frac{\mathtt{Exp[x]}}{\mathtt{x}} \left(\sum_{n=1}^{\infty} \frac{n!}{x^n} \ \mathtt{until} \ \frac{n!}{x^n} < \epsilon \right)$$

Where γ is Euler's constant:

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N[EulerGamma, 100]
```

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0.57721566490153286060651209008240243104215933593992359880576723488486772677766467093694706
 32917467495
```