



Task 0

Initial Task – IEEE AI Team

$$S = \frac{k_B c^3}{16\pi} \int_H dA$$

$$\delta Q = \frac{\hbar \kappa}{2\pi} dS$$

Level 1 Task

Task 1 : Create folder called “Hello IEEE” and inside it create two folders, one called Research and the second called Code.

Task 2 : search about trapezoid rule for integration and how to use it, give examples too

Task 3 : search about matrix Normalization and its applications in AI, give examples too

Task 4 : inside Research folder put them

Task 5 : write python code to create matrices calculator that can make matrices summation, subtraction, multiplication, scalar multiplication, scalar addition, Normalization, it should implement

```
def matsum(arr1, arr2)
```

```
def matsub(arr1, arr2)
```

```
def matmul(arr1, arr2)
```

```
def scalarsum(scalar, arr)
```

```
def scalarsub(scalar, arr)
```

```
def matnorm(arr)
```

you should put this code inside Code folder

Level 2 Task

Task 1 : Create folder called “ Hello IEEE” and inside it create two folders, one called Research and the second called Code

Task 2 : search about Gamma Function and its usage in probability

$$\Gamma(n) = \int_0^{\infty} x^{n-1} e^{-x} dx$$

Task 3 : search about Hessian Matrix and its usage in AI

Task 4 : inside Research folder put them

Task 5 : write python code to Implement linear Regression Algorithm from scratch, it is allowed for using Numpy, but there is bonus for implement it without Numpy.

You should put this code inside Code folder

