Northeastern University

Report for Experiment #N
Lab Name

Name
Lab Partner: Name
TA: Name
Date

Abstract:

Summarize motivation and main results.

Introduction:

Sample equations,

$$\vec{\nabla} \cdot \vec{E} = \frac{\rho}{\varepsilon_0} \tag{1}$$

$$\vec{\nabla} \cdot \vec{B} = 0 \tag{2}$$

$$\vec{\nabla} \times \vec{E} = -\frac{\partial \vec{B}}{\partial t} \tag{3}$$

$$\vec{\nabla} \times \vec{B} = \mu_0 \left(\vec{J} + \varepsilon_0 \frac{\partial \vec{E}}{\partial t} \right) \tag{4}$$

Within report reference as [*Equation n*].

Investigation 1:

Sample derived equation,

$$z = f(x_1, x_2, ..., x_n) \qquad \Rightarrow \qquad \delta z = \sqrt{\sum_{i=1}^{n} \left(\frac{\partial f(x_1, x_2, ..., x_n)}{\partial x_i} \delta x_i \right)^2}$$

Sample table,

$$\begin{array}{ccccc}
\vec{F}_E = \dfrac{1}{4\pi\varepsilon_0}\dfrac{qQ}{r^2}\hat{r} & \rightarrow & \vec{E} = \dfrac{1}{q}\vec{F} & \rightarrow & \vec{E} = \dfrac{1}{4\pi\varepsilon_0}\dfrac{Q}{r^2}\hat{r} \\
\uparrow & & & & \downarrow \\
\vec{F}_E = -\vec{\nabla}\Delta U & & & & \Delta V = -\displaystyle\int_C \vec{E} \cdot d\vec{l} \\
\uparrow & & & & \downarrow \\
\Delta U = \dfrac{1}{4\pi\varepsilon_0}\dfrac{Qq}{r} & \leftarrow & \Delta U = q\Delta V & \leftarrow & \Delta V = \dfrac{1}{4\pi\varepsilon_0}\dfrac{Q}{r}
\end{array}$$

Figure 1: Random Table

Sample figure (InkScape),

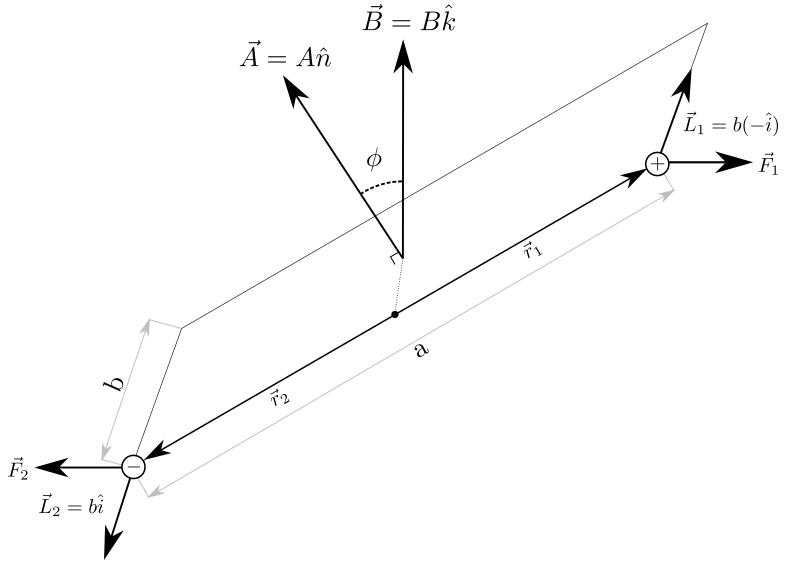

Figure 2: Random Figure

Sample code,

```
def fibonacci(n):
   if n <= 1:
       return n
   else:
       return fibonacci(n-1) + fibonacci(n-2)
```

Figure 3: Random Code

Sample circuit with Circuitikz,

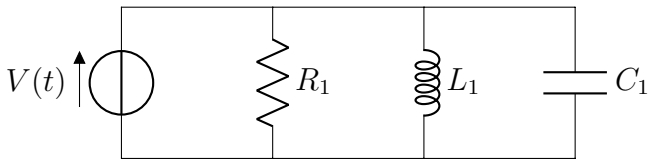

Figure 4: Random Circuit

Conclusion:

I'm never really sure what goes here.

Questions:

1. Question 1

References:

1. Table Generator LaTeX, helpful if converting Excel Data
2. Northeastern IPL Straight Line Fit Calculator