CS 344: Design and Analysis of Computer Algorithms	**Rutgers: Spring 2022**

Homework #0

Deadline: Tuesday, January 25, 11:59 PM

Name: FIRST LAST   *Extension: Yes/No*

The entire goal of this "homework" is to help you get familiar with LaTeX. This homework only has **bonus credit** for a total of 2% of your course grade. See your syllabus for more information.

Problem 1. Enter your first and last name and whether or not you are using an extension at the top of this page in the specified place.   (**+20 points**)

Solution. Change the text written as "FIRST LAST" in the command

"\renewcommand{\thisname}{FIRST LAST}"

"\renewcommand{\thisextension}{Yes/No}"

a couple of lines above here.

Problem 2. Write the math expression $\lim_{n \to +\infty} \frac{n}{n^2} = 0$ in a single separate line instead.   (**+40 points**)

Solution. Remove the text below (including the "\text" command) and instead copy paste the math expression above that is between $'s.

<div align="center">COPY PASTE HERE</div>

Problem 3. Rewrite the following lengthy math expression

$$\sum_{i=0}^{n} 2^i = 1 + 2 + \cdots + 2^n = \frac{2^{n+1} - 1}{2 - 1} = 2^{n+1} - 1 = 2 \cdot 2^n - 1,$$

into multiple lines using the following format:

$$
\begin{align*}
\text{Expression 1} &= \text{Expression 2} \\
&= \text{Expression 3} \\
&= \text{Expression 4} \\
&= \text{Expression 5.}
\end{align*}
$$

(**+40 points**)

Solution. Copy paste the

"\begin{align*} \end{align*}"

environment above and then replace

"\text{Expression ?}"

part by the corresponding expression.