CSE 300: Online Assignment

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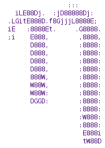
1 Graphics

Emacs, Nano, or Vim: Choose your Terminal-Based Text Editor Wisely. Nano is the built-in basic text editor for many popular distros. Its usually already contained in the distro, doesnt take any learning or getting used to, and all its commands and prompts are displayed at the bottom. Nano is the built-in basic text editor for many popular distros. Its usually already contained in the distro, doesnt take any learning or getting used to, and all its commands and prompts are displayed at the bottom. Vi or one of its variants typically comes with your distro-of-choice. Its considered a modal editor, which means there are different modes for navigating files and editing text. Because you navigate Vi most efficiently through the use of keyboard commands and shortcuts, Vi is better experienced than explained.

(a) emacs



(b) nano

(c) nano

Figure 1: Terminal-based text-editors

2 Equations

In algebra, a quadratic equation is any equation having the form $ax2 + bx + c = 0$ where x represents an unknown, and a, b, and c represent known numbers, with $a \neq 0$. It can easily be seen, by polynomial expansion, that the following equation is equivalent to the quadratic equation:

$$\left(x + \frac{b}{2}\right)^2 = \frac{b^2 - 4ac}{4a^2}$$

$$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

$$f_1(t) = \int_3^5 \sin(x) dx$$

$$F(x) = A_0 + \sum_{n=1}^{N} \left[A_n \cos\left(\frac{2\pi n x}{P}\right) + B_n \sin\left(\frac{2\pi n x}{P}\right) \right]$$

$$\lim_{x \to a} \frac{f(x) - f(a)}{x - a}$$

$$\binom{a}{b+c} \binom{\frac{n^2-1}{2}}{n+1}$$

$$h \leq \sqrt{\frac{(s-a)(s-b)(s-c)}{s}}$$

$$6CO_2 + 6H_2O = 6C_12H_22O_11 + 6H_2O$$

$$\begin{bmatrix} a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \\ c_1 & c_2 & c_3 \end{bmatrix}$$

$$\begin{aligned} e^{i\theta} &= \cos\theta + i\sin\theta \\ e^{i\frac{\pi}{2}} &= \cos\frac{\pi}{2} + i\sin\frac{\pi}{2} \\ &= 0 + i.1 \\ &= i \end{aligned}$$

$${}^nC_k = \binom{n}{r} = \frac{n!}{(n-r)!}$$

$$F_c(x,y) = \begin{cases} \frac{\delta^2 x^3 y^x}{\delta x^2} + \frac{\delta^2 \Gamma(x) log(tan(y))}{\delta x \delta y} & \text{if } x, y \text{ are real numbers} \\ \lim\limits_{z \to e^{x^{2y}}} \sqrt{z + \frac{1}{\sqrt{z + \frac{1}{\sqrt{z+\ldots}}}}} & \text{otherwise} \end{cases}$$

3 Bibliography

The recent success of neural networks has boosted research on pattern recog- nition and data mining. Many machine learning tasks such as object detection in "You Only Look Once" [1], machine translation [4], and speech recognition [1], which once heavily relied on handcrafted feature engineering to extract in- formative feature sets, has recently been revolutionized by various end-to-end deep learning paradigms, i.e., convolutional neural networks (CNNs) [3], long shortterm memory (LSTM) [2], and autoencoders.

References

[1] Joseph Redmon et al. “You only look once: Unified, real-time object detection”. In: *Proceedings of the IEEE conference on computer vision and pattern recognition*. 2016, pp. 779–788.