C Programming (W4)

Welcome!!

Please check attendance individually.

(Mobile App)

Things to do today

01 Standard input (W3)
Codyssey C1-P1 : Evaluation

02 Let’s practice Codyssey (C1-P2)

03 Lecture Notes (Ch.1 ~4)

https://www.aiexpo.co.kr/en/

Change computer’s time to korean time.

002 – Ch1.~3

Step for homework

01 Read a problem in Codyssey (Specifically Implementation Task, Constraints)

02 Implement the solution of a problem in VSC
Run and make sure your solution satisfies implementation task & constraints

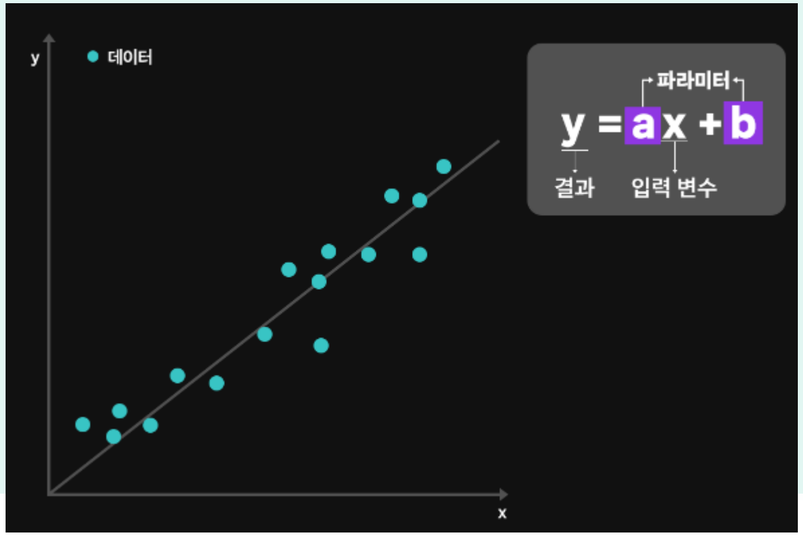
03 Upload your solution into your github.

04 Request the evaluation (30 minutes discussion) through Codyssey
Then participate the evaluation of classmate’s solution (30 minutes discussion)

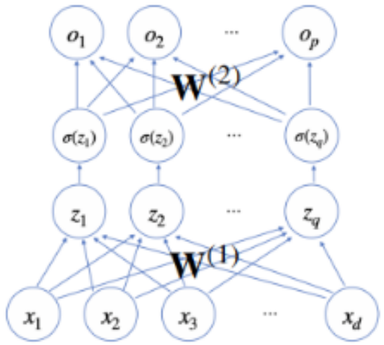
AI?

AI (Artificial Intelligence), especially Deep Learning, can be viewed as a process of learning **a mathematical function (model) with numerous parameters.**

An AI model is a mathematical function that describes the complex relationship between input and output, and can be said to be **a process of learning data patterns** by optimizing numerous parameters. However, AI is not a simple "formula"; it is a process of finding the optimal function based on data.



$$\nabla_{\mathbf{W}^{(1)}}\mathcal{L} = (\nabla_{\mathbf{W}^{(1)}}\mathbf{z})(\nabla_{\mathbf{z}}\mathbf{h})(\nabla_{\mathbf{h}}\mathbf{o})(\nabla_{\mathbf{o}}\mathcal{L}) \longleftrightarrow \frac{\partial \mathcal{L}}{\partial W_{ij}^{(1)}} = \sum_{l,r,k} \frac{\partial \mathcal{L}}{\partial o_l}\frac{\partial o_l}{\partial h_r}\frac{\partial h_r}{\partial z_k}\frac{\partial z_k}{\partial W_{ij}^{(1)}}$$



$$\mathbf{o} = \mathbf{W}^{(2)}\mathbf{h} + \mathbf{b}^{(2)}$$

$$\mathbf{h} = \sigma(\mathbf{z})$$

$$\mathbf{z} = \mathbf{W}^{(1)}\mathbf{x} + \mathbf{b}^{(1)}$$

$$\frac{\partial o_l}{\partial h_r} = W_{rl}^{(2)}$$

$$\frac{\partial h_r}{\partial z_k} = \sigma'(z_k)\delta_{rk}$$

$$\frac{\partial z_k}{\partial_{W_{ij}^{(1)}}} = \frac{\partial}{\partial_{W_{ij}^{(1)}}} \sum_{i'} x_{i'} W_{ik}^{(1)} = x_i \delta_{jk}$$


집단지성 → 20년간 1인당 정보량 1,000만 배 증가
1인당 정보의 양
역사 이전 시대
역사 시대
스마트폰 출시
www 발명
인쇄기 발명
어떻게 정보-인지 능력의
GAP을 줄일 수 있을까?
인간의 학습, 인지 능력
1DT
1T
100G
10G
1G
100M
BC300,000
2022

Homework

1. Finish Step 1, Course 1, Problem 2
2. Read Step 1, Course 1, Problem 3, 4

See you next week!
DO NOT miss the classes