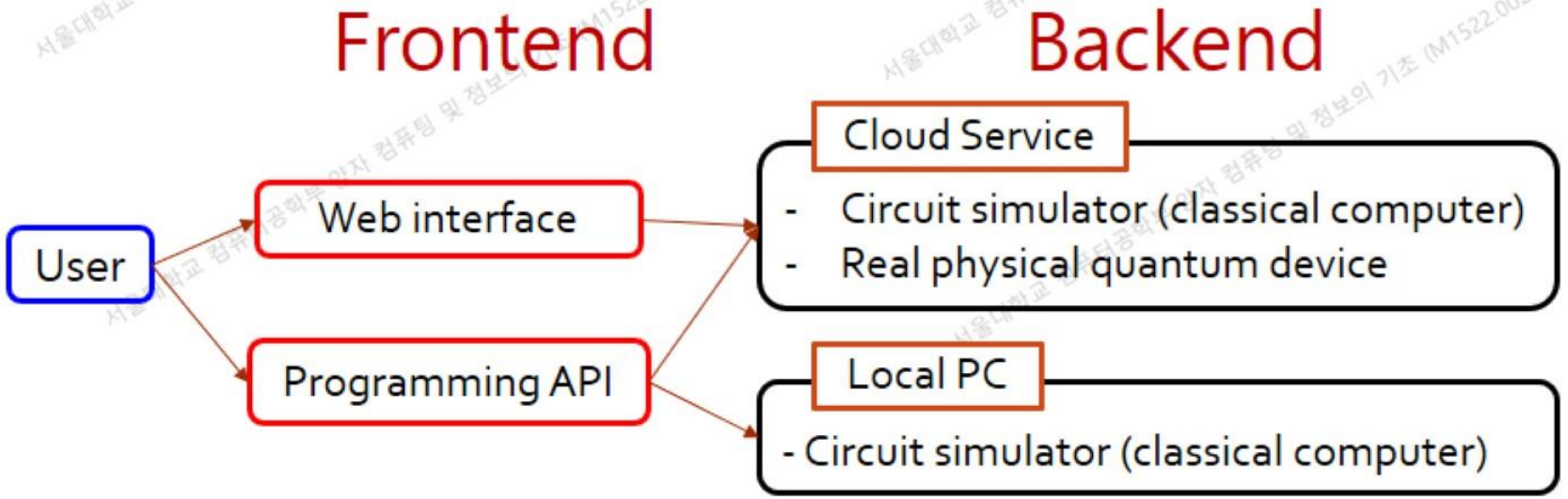
Quantum Computing Cloud Service

- There are several companies that already provide or are preparing to provide quantum computing cloud service
- (Incomplete) list of services
  - IBM Q
  - Microsoft Azure Quantum Stack
  - Amazon AWS Bracket
  - Google
  - https://www.quantiki.org/wiki/list-qc-simulators
- Typical model for the system



IBM Quantum Experience

- Qiskit (Quantum Information Science Kit, https://qiskit.org/)
  - Tutorial video: https://www.youtube.com/playlist?list=PLOFEBzvs-Vvp2xg9-POLJhQwtVktlYGbY
  - Textbook: https://qiskit.org/textbook/preface.html
  - Installation (python 3.5 or later is required)
    - ➔ https://qiskit.org/documentation/install.html
    - ➔ conda env list ➔ shows the list of created environments
    - ➔ After creating new environment, install qiskit package by "pip install qiskit"
    - ➔ Then, install matplotlib, jupyter, ipywidgets, seaborn, and pygments for further operation.
    - ➔ Open "Anaconda Prompt"
    - ➔ conda env list
    - ➔ activate qiskit (or source activate qiskit for Unix-based OS)
  - Inside qiskit environment
    - Create a working directory and cd into it.
    - jupyter notebook
    - Create a jupyter notebook, and inside Jupyter noobook,
    - import qiskit