IoT Assignment Worksheet

Instructions: Please submit your answers using this worksheet.

*The size of the box we allocated to the question hints at how long an answer you will need to give.*

| **Q1 – This pub-sub architecture is actually very prevalent in day-to-day activities, notably in social media and media consumption. Fill in the table below with one social media (e.g. Instagram, WeChat, Twitter, Weibo) and one media (e.g. YouTube, Bilibili) platform as parallels to the pub-sub architecture. The magazine publisher analogy given in the summary is filled in as an example.** | | | |
| --- | --- | --- | --- |
|  | **Broker** | **Publish Action** | **Subscribe Action** |
| Example  **Magazine Publishing** | Magazine Publisher | Magazine writer sends magazine to publisher | Magazine reader subscribes to magazine through publisher |
| Social Media Platform | **Twitter** | **Everyone can write and post anything through writing a micro-blog or just some sentences in twitter and publish.** | **Click the subscribe button and then will receive the twitter written by the one you subscribed** |
| Media Platform | **YouTube** | **Upload a video or write a blog and publish to your channel.** | **Click the subscribe button** |

Worksheet continues on the next page →

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| **Q2a – Plot the data you have collected. What statistical distribution best fits the collected data?**  **Time sequence figure**    图表, 直方图  描述已自动生成  The original data distribution  Then remove the average value and try again  图表, 直方图  描述已自动生成  Still fit weakly |
| **Q2b – What are the 4 parameters of the statistical distribution that best fits the collected data? Please provide substantiation on how the chosen distribution and its parameters fit the data well.**  average: 10658.865284974094  median: 19089.0  mini: 925  max: 21412  **try to divide the data into 2 parts**  **The second part:**  **图表, 直方图  描述已自动生成**  **Using fitter lib to find the most fitting distribution**      **The best fit of second half is generalized normal distribution**  **It has the lowest square error.**  **The first half:**    **文本  描述已自动生成**  **图表, 直方图  描述已自动生成**  **Beta distribution has the lowest square-error and highest probability.** |