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**1Q:**

As a project coordinator, here are some suggestions for how to solve the problem of hCaptchas when scraping 1 lakh website pages from a directory site:

1**. Use a CAPTCHA solver service:** There are a number of CAPTCHA solver services available that can automatically solve CAPTCHAs for you. This can be a good option if you need to scrape a large number of pages quickly and efficiently. However, it is important to note that these services can be expensive, and they may not always be reliable.

2.**Rotate IP Addresses and User-Agent strings:** Encourage the developer to use a rotating proxy or VPN service to change their IP address regularly. By rotating these values,you can make it more difficult for the hCaptcha to detect that you are a bot. This can be done manually, or by using a tool such as a proxy rotator.

3.**Use a headless browser:** A headless browser is a web browser that runs without a graphical user interface. This can be useful for scraping, as it allows you to make requests and parse responses without having to interact with the browser manually.

4**.Use a cloud-based scraping service:** There are a number of cloud-based scraping services available that can help you to bypass hCaptchas. These services typically use a combination of the techniques above to make it difficult for hCaptchas to detect them.

5.**Avoid Aggressive Scraping and Scrape During Off-Peak Hours**: Limit the speed and volume of requests. Reducing the rate at which you scrape can help avoid hCaptcha challenges.Schedule scraping during off-peak hours when website traffic is lower. This may reduce the likelihood of encountering captchas.

**2Q:**

There are a few ways to estimate the income range of a set of LinkedIn profiles:

1**. Use LinkedIn Salary Insights:** LinkedIn Salary Insights is a feature that provides estimated salary ranges for different job titles, companies, and locations. To use LinkedIn Salary Insights, you will need to create a LinkedIn Recruiter account. Once you have a LinkedIn Recruiter account, you can generate a Talent Pool Report for your set of LinkedIn profiles. The Talent Pool Report will include an estimated salary range for each profile.

2**. Machine Learning and Data Analysis:** You can employ machine learning models and data analysis techniques to make predictions. Train a model on publicly available salary data and then apply it to the information from LinkedIn profiles. This approach can provide more accurate estimates.

3. **Use a salary estimation service:** There are a number of salary estimation services available, such as Salary.com and PayScale. These services allow you to estimate the salary range for a given job title, company, and location. To estimate the salary range for your set of LinkedIn profiles, you can enter the job title, company, and location for each profile into the salary estimation service.

4. **Manually estimate the salary range based on the profile information:** You can also manually estimate the salary range for each profile based on the information provided in the profile.

Once, you have estimated the income range for each profile, you can calculate the average income range for the entire set of profiles. You can also segment the profiles by job title, company, location, or other factors to get more granular insights.

**3Q:**

There are a few ways to find the LinkedIn company links of a list of 1L company names:

1**. Manually search for the companies on LinkedIn:** This is the simplest method, but it can be time-consuming if you have a large list of companies. To manually search for a company on LinkedIn, go to the LinkedIn homepage and type the company name into the search bar. Click on the company name in the search results to view the company's LinkedIn profile.

2. **LinkedIn API:** You can use the LinkedIn API to automate the company profile search process. You would need to obtain access to the LinkedIn API, which might require joining the LinkedIn Developer Program.Once you have API access, you can use the "Organization Search" API to search for company profiles based on company names. This can be more efficient than manual searches, but there may still be limitations.

3. **Web Scraping:** If you can't access the LinkedIn API, web scraping is an alternative method. You can use web scraping tools or libraries to extract LinkedIn company profile links from search results.Be aware that LinkedIn's terms of service prohibit scraping, and it's important to respect their policies and be cautious when scraping to avoid being blocked.

4**. Use a third-party service:** There are a number of third-party services available that can provide you with the LinkedIn company links of a list of companies. These services typically have a database of LinkedIn company profiles that they use to generate the links.

4Q:

Here is a suggested approach for identifying a list of companies whose tech stack is built on Python:

1**. LinkedIn Company Pages:** You can start by searching for LinkedIn company pages and examining the profiles of employees or the company's job postings. Many companies list the technologies they use in their job descriptions or employee profiles.

2. **Company Websites and Job Postings:** Visit the websites of the companies you're interested in. Often, companies will mention the technologies they use in their "About Us" sections. Analyze job postings on platforms like LinkedIn, Indeed, or the company's career page. Look for mentions of Python in their technology stack.

3. **GitHub Repositories:** Check if the company has public repositories on GitHub. Many companies use GitHub for version control and open-source projects. You can look for Python-related projects in their repositories.

4. **Use a tool like Built With** to analyze the company's website. This tool will tell you what technologies are being used on the website, including the programming language.

Here are 5 examples of companies whose tech stack is built on Python:

1 **Google**: Google is well-known for its extensive use of Python in various services and projects, including Python-based libraries and tools.

2 **Facebook**: Facebook uses Python in many of its backend services and open-source projects, including Django.

3 **Instagram**: Instagram, which is owned by Facebook, also uses Python for its backend services and web development.

4 **Dropbox:** Dropbox has used Python extensively in the past for various parts of its infrastructure and client applications.

5 **Spotify:** Spotify has used Python for certain backend services and data analysis.

**5Q:**

There is no official LinkedIn API for sending messages to other LinkedIn users. However, there are a number of unofficial APIs available that can be used for this purpose. One such API is the beeper/linkedin-messaging-api. This API is open source and free to use.

Here are the steps for sending a LinkedIn message using the beeper/linkedin-messaging-api:

1.Install the beeper/linkedin-messaging-api package

2.Import the API client class

3.Create an instance of the API client class[client = LinkedInMessagingAPI(access\_token)]

4.Create a message object and send the message(response = client.send\_message(message))

If the message is successfully sent, the response will contain the message ID. Otherwise, the response will contain an error message.