**MINDFULEDU DATASCIENCE ASSIGNMENT**

**Date: 21-02-2024**

**Assignment No: 1**

1. **Applications of Python:**

Python is a high-level, general-purpose, and very popular programming language. Python programming language (latest Python 3) is being used in web development, Machine Learning applications, along with all cutting-edge technology in Software Industry. Python language is being used by almost all tech-giant companies like – Google, Amazon, Facebook, Instagram, Dropbox, Uber… etc.

**5 Common & Practical Uses of Python:**

* **AI & Machine Learning:** One of the key roles of Python in Artificial Intelligence is the support of various powerful libraries and frameworks. Python frameworks like TensorFlow and PyTorch are widely used for developing and deploying machine learning models. These frameworks provide high-level abstractions that make it easier to build complex models.
* **Data Analytics:** Python libraries like Pandas and NumPy are essential for data cleaning, manipulation, and analysis. These libraries provide powerful tools for working with large datasets.
* **Backend Development:** Python frameworks like Django and Flask are popular for building scalable and maintainable web applications. These frameworks provide a structured approach to web development, making it easier to handle tasks like routing, databases, and user authentication.
* **Graphical User Interface (GUI):** Python frameworks like Tkinter and PyQt can be used to create desktop applications with graphical user interfaces. These applications can be used for a variety of purposes, such as data entry, image processing, and scientific calculations.
* **Automation:** Automation with Python typically involves writing scripts or programs, and is used for a wide range of automation tasks like file manipulation, data scraping, web testing, system administration tasks, image processing, and more.

1. **Top 3 MNCs Info and the Technologies They Involved:**
2. **Microsoft:**

A tech giant known for software, personal computers, gaming, and cloud computing.

* **Motive & Goal:** To empower every person and organization on the planet to achieve more through technology, with a focus on AI that empowers people and organizations.
* **Company Type:** Product-based (with significant service offerings)
* **Products & Services:** Windows, Office, Azure cloud platform, Xbox, Dynamics business applications, AI tools like Azure Cognitive Services and AI Platform.
* **Job Roles for Freshers:** Software Engineer, Machine Learning Engineer, Data Scientist, Cloud Engineer, Research Scientist.
* **Salary Range:** ₹4-8 Lakhs per annum (estimates vary).
* **Key Skills:** Strong programming skills (Python, Java, C++), data analysis/visualization, problem-solving, soft skills.

1. **IBM:**

A global leader in information technology, offering hardware, software, and cloud computing services.

* **Motive & Goal:** To be the world's most trusted and responsible technology company, with AI playing a key role in solving global challenges.
* **Company Type:** Service-based (with product offerings)
* **Products & Services:** Consulting, IT infrastructure, cloud computing (IBM Cloud), AI solutions like Watson AI platform, blockchain, quantum computing.
* **Job Roles for Freshers:** Software Engineer, Data Analyst, AI Developer, Cloud Engineer, Security Analyst.
* **Salary Range:** ₹3.5-7 Lakhs per annum (estimates vary).
* **Key Skills:** Strong programming skills (Python, Java), data analysis/modelling, cloud knowledge, problem-solving, communication skills.

1. **Infosys:**

An Indian multinational IT consulting and outsourcing company, focusing on digital transformation and AI solutions.

* **Motive & Goal:** To be the next-generation Infosys, powered by AI and automation, driving client success through agile digital at scale.
* **Company Type:** Service-based
* **Products & Services:** IT consulting, software development, cloud solutions, AI automation and analytics, digital marketing.
* **Job Roles for Freshers:** System Engineer, Application Developer, Data Analyst, AI Associate, Cloud Engineer.
* **Salary Range:** ₹3-5 Lakhs per annum (estimates vary).
* **Key Skills:** Strong programming skills (Java, Python), problem-solving, communication, adaptability, willingness to learn.