Exercise 1.1

"It is said that government spending on IT is increasing as government departments take initiatives to improve customer service or have a wider reach of services. Find out what factors are responsible for the increase of IT spending by government agencies. Also list and explain the three biggest IT projects undertaken by the federal government in recent times?"

There are several factors for which the government is spending on IT sectors. The factors are as follows:

- Governments around the world are implementing digital transformation programs to improve service delivery and efficiency, which necessitates major investment in IT infrastructure.
- Governments invest in the IT sector because it employs data analytics and big data technologies to make informed decisions, identify trends, and improve government processes.
- Concerns about cybersecurity have resulted in greater investment in secure information technology systems, enhanced security methods, and people training.
- Legacy system upgrades are a significant driver of IT investment, as many agencies continue to use out-of-date, inefficient systems that must be upgraded to meet current technology requirements.

The three biggest IT projects undertaken by the federal government in recent times -

- **Digital India Initiative (India):**
  Digital India is the Government of India's flagship plan aimed at transforming India into a digitally enabled society and knowledge economy. Honourable Prime Minister Narendra Modi launched the scheme on July 1, 2015. The initiative includes initiatives like the National Optical Fiber Network (NOFN) for rural broadband connectivity and the implementation of digital platforms for government services.
- **Smart Nation Initiative (Singapore):**
  The Smart Nation initiative, established by Prime Minister Lee Hsien Loong in 2014, featured the government acquiring services from digital firms rather than providing grants, with a budget of $2.4 billion set aside for the 2017 fiscal year. The initiatives include smart sensor deployment for urban planning, digital government services, and a countrywide broadband network to integrate smart technologies.
- **U.S. Department of Defense's Joint Enterprise Defense Infrastructure (JEDI) Cloud Program (United States):**
  The Joint Enterprise Defense Infrastructure (JEDI) deal was a huge US Department of Defense cloud computing contract valued at $10 billion over ten years. The JEDI Cloud Program is a key IT initiative launched by the United States Department of Defense to modernise its IT infrastructure by implementing a secure cloud computing platform, increasing data accessibility, collaboration, and cybersecurity.

Exercise 2.2

“Go to some open source projects and find out about their project charters. Find out why they
have those project charters.”

The "Apache HTTP Server" project is one of several open source projects with a well-defined project charter. Apache HTTP Server, sometimes known as Apache, is a popular, open-source web server software. The project charter generally describes the project's goals, objectives, and scope, allowing for a clear vision of the project. The project charter of the Apache HTTP Server includes the following:

- **Project Scope**: This primarily includes all of the goals and objectives that the software seeks to achieve.
- **Code of Conduct**: This is essentially a guideline that outlines the expected norms and behaviours that should exist among the project community while also establishing a foundation for courteous and inclusive interactions. Violation of any code of conduct can result in corrective actions, including revocation of commit access.
- **Project Lifecycle:** The Apache project charter also includes a project lifecycle that incorporates all details about the alpha, beta, and stable versions. Any new features that need to be added should be done through community discussions.
- **Licensing Details:**The Apache HTTP software is licensed under Apache 2.0. Before contributing to the project, contributors must comply with all of the clauses and principles outlined in the licence.
- **Project Purpose:** The project objective will include all of the project's details, such as what should be implemented and what goals should be met, to ensure transparency among team members or anyone contributing to the software.
- **Governance Structure:** Apache's project charter outlines its meritocratic governance model, with a Project Management Committee overseeing direction, releases, and community dynamics.
- **Development Process:** The development process is lightweight, with committers deciding changes to commit. Significant code changes require three +1 votes, while some contributors' changes may be approved in advance, resolved by majority vote.

The reason for having the project charter is mentioned below:

- The project charter contains explicit and well-defined facts about the project scope and objectives, allowing contributors and users to have a thorough understanding of the product.
- Documenting the project's lifetime and release procedure provides insight into how it evolves over time.
- Stating the right licensing information assists collaborators in fully understanding the legal concerns, avoiding legal problems.

- The project charter contains the project's baseline. It will provide a foundation to Apache for creating more precise project plans, timetables, and budgets.
- The charter typically involves an initial risk assessment, which will enable the Apache project team to plan for risk mitigation and management proactively.

References:

1) https://en.wikipedia.org/wiki/Joint_Enterprise_Defense_Infrastructure
2) https://www.smartnation.gov.sg/
3) https://csc.gov.in/digitalIndia
4) https://httpd.apache.org/ABOUT_APACHE.html
5) https://asana.com/resources/project-charter