1. **A paragraph on what PaaS, SaaS and IaaS are and the differences between them.**

PaaS, SaaS and IaaS are different types of cloud computing service models. Cloud computing is the use of hardware and software components to deliver a service to a network. Users can access these files and applications from any device that can access internet.

Platform as a service, is mostly a development environment that is made up of a programming language execution environment, an operating system, web server, and database. It provides an environment where users can build, compile, and run their program without worrying about an hidden infrastructure. You manage the data and application resources. All the other resources are managed by the vendor. This is the realm for developers.

Software as a service, provides on-demand pay per use of the application software for users and is independent of a platform. You do not have to install software on your computer, unlike a license paid program. Cloud runs a single occurrence of the software, making it available for multiple end-users allowing the service to be cheap. All the computing resources that are responsible for delivering SaaS are totally managed by the vendor. The service is accessible through a web browser or lightweight client applications.

Infrastructure as a service, provides the architecture and infrastructure. It provides all computing resources but in a virtual environment so multiple users can have access. The resources include data storage, virtualization, servers, and networking. Most vendors are responsible for managing them. If you use this service, you are responsible for handling other resources including applications, data, runtime, and middleware. This is mostly for SysAdmins.

2. **A paragraph on the differences between ETL and ELT. Also, list the pros and cons of each in a chart. And specify when you'll use which.**

Extract Transform Load, is an older method ideal for complex transformations of smaller data sets. It's also great for those prioritizing data security. It is used when data must be transformed to conform to the data regime of a target database. Consider an example of ETL in action, OLAP data warehouses only accept relational SQL-based data structures. With this kind of data warehouse, a protocol such as ETL ensures compliance by routing the extracted data to a processing server, and then transforming the non-conforming data into SQL-based data. The extracted data only moves from the processing server to the data warehouse once it has been successfully transformed.

Extract Load Transform, is a newer technology that provides more flexibility to analysts and is perfect for processing both structured and unstructured data. It loads raw data directly into a target data warehouse, instead of moving it to a processing server for transformation. With ELT data pipeline, data cleansing, enrichment, and data transformation all occur inside the data warehouse itself. Raw data is stored indefinitely in the data warehouse, allowing for multiple transformations.