In [1]: `#Q1`

In [2]:
```
# An application programming interface that allows software applicatons to interact
#.An API acts as a mediator between two applications,enabling them to communicate w
# For example, the weather bureau's software system contains daily weather data.
# The weather app on your phone "talks" to this system via APIs and shows you daily


#An API, short for Application Programming Interface, is a software-to-software int
#They deliver the information or functionality requested without user intervention.
```

In [3]: `#Q2`

In [4]:
```
# Advantages of API:-

#1)Increase Interoperability
#2)Improved Efficiency
#3)Better user experience
#4)Increase Flexibility
#5)New Revenue Streams


#Disadvantages of API:-

#1)Security Concerns
#2)Complexity
#3)Compatibility issues
#4)Dependency on third party developers
#5)Governance and management
```

In [5]: `#Q3`

In [6]:
```
# WebAPI:- A set of standards and protocals for accessing web-based software applic
# the primary purpose of webapi to access and retrieve data from a remote Server.So

#1.Accessing database and Servers 2.Integrating third party services and data into



#APIs allow applications to communicate, while web API communicate over network. We
#Web API developed through HTTP and API developed through TCP/IP,HTTP.Rest Architec
# WebAPI ex-Gmail,Google and API ex:- Uber,Swiggy,GoogleMaps.
```

In [7]: `#Q4`

In [8]:
```
#SOAP and REST are two different approaches to API design. The SOAP approach is hig
#SOAP stands for Simple Object Access Protocol and REST stands for Representational
#SOAP uses only XML for exchanging information in its message format whereas REST i
#SOAP is difficult to implement and it requires more bandwidth whereas REST is easy
#SOAP cannot make use of REST since SOAP is a protocol without any architectural pa
```

In [9]:
```python
#Q5
```

In [ ]:
```python
# SOAP:-
#Relies on SOAP (Simple Object Access Protocol).Transports data in standard XML for
#Because it is XML based and relies on SOAP, it works with WSDL.Works over HTTP, HT
#Highly structured/typed.Designed with large enterprise applications in mind.


#Rest:-
#Relies on REST (Representational State Transfer) architecture using HTTP.It works
#Works over HTTP and HTTPS.Designed with mobile devices in mind.
#Generally transports data in JSON. It is based on URI. Because REST follows statel
```