B. Explore: API Specification list

1. Give all of socket and server socket methods with their description.

The server invokes the accept() method of the ServerSocket class. This method waits until a client connects to the server on the given port. After the server is waiting, a client instantiates a Socket object, specifying the server name and the port number to connect to.

Server Socket Methods

In the client server architecture, there is one centralized server that provides service and many clients receive service from that centralized server. The clients also do the request server. A few important server socket methods in this architecture are as follows.

* Socket.bind() – This method binds the address (hostname, port number) to the socket.
* Socket.listen() – This method basically listen to the connection made to the socket. It starts TCP listener. Backlog is an argument of this method which specifies the maximum number of queued connections. It minimum value is zero and maximum value is 5.
* Socket.accept() – This will accept TCP client connection. The pair (conn, address) is the return value pair of this method. Here, conn is a new socket object use to send and receive data on the connection and address is the address bound to the socket. Before using method, the socket.bind() – and socket.listen() method must be used.

Client socket methods

The client and the client server architecture request the server and received services from the server. For this, there is only one method dedicated for clients.

* Socket.connect(address) – this method actively intimate server connection or in simple words this methods connects the client to the server. The argument address represent the address of the server.

General Socket Method

Other than client and server socket method, There are some general socket method , which are very useful in socket programming. The general socket method are as follow.

* Socket.recv(bufsize) – as named implies, this method recieve the TCP message from socket. The argument bufsize stands for buffer size and defined the maximum data this method can received at any one time.
* Socket.send(bytes) – this method is use to send data to the socket which is connected to the remote machine. The argument bytes will give the number of bytes sent to the socket.
* Socket.recvfrom(data,address) – this method received data from the socket. two pair(data,address) value is returned by this method. Data defines the received data and address specifies the address of socket of sending the data.
* Socket.sendto(data,address) – as name implies, this method is use to send data from the socket. Two pair(data,address) value is returned by this method. Data defined the number of byte sent in address specifies the address the address of the remote machine.
* Socket.close() – this method will close the socket.
* Socket.gethostname() – this method will return the name of the host.
* Socket.sendall(data) – this method sends all the data to the socket which is connected to a remote machine. It will carelessly transfer the data until an error occurs and if it happens then it uses socket.close() method to close the socket.