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UID –  
BRANCH – B.TECH CSE  
SEM – 4<sup>TH</sup>  
SEC- 615 “B”  
SUBJECT – COMPUTER NETWORK

Q - In real life scenario, give one-one example of simplex, half duplex and full duplex. Also, mention the medium of transmission used with those examples..

SOL-

The primary difference between the three modes of transmission is that in a simplex mode of transmission the communication is unidirectional, or one-way; whereas in the half-duplex mode of transmission the communication is two-directional, but the channel is interchangeably used by both of the connected devices. On the other hand, in the full-duplex mode of transmission, the communication is bi-directional or two-way, and the channel is used by both of the connected devices simultaneously.

**Simplex mode:**

In simplex mode, Sender can send the data but that sender can't receive the data. It is a unidirectional communication.

**EXAMPLE** - Keyboard and monitor

**Half-duplex mode:**

In half duplex mode, Sender can send the data and also can receive the data but one at a time. It is two-way directional communication but one at a time.

**EXAMPLE** - Walkie-talkie

**Full duplex mode:**

In full duplex mode, Sender can send the data and also can receive the data simultaneously. It is two-way directional communication simultaneously.

**EXMAPLE** - Telephone

- In simplex mode, the signal is sent in one direction. In half duplex mode, the signal is sent in both directions, but one at a time. In full duplex mode, the signal is sent in both directions at the same time.
- In simplex mode, only one device can transmit the signal. In half duplex mode, both devices can transmit the signal, but one at a time. In full duplex mode, both devices can transmit the signal at the same time.
- Full duplex performs better than half duplex, and half duplex in turn performs better than simplex.
- Simplex: The keyboard sends the command to the monitor. The monitor cannot reply to the keyboard.
- Half duplex: Using a walkie-talkie, both speakers can communicate, but they have to take turns.
- Full duplex: Using a telephone, both speakers can communicate at the same time.
- The full duplex transmission mode offers the best performance among the three, on account of the fact that it maximises the amount of bandwidth available.