

## LZW Transmitter Operation

- 1 Add next message symbol to input string
    - If this is first symbol, invoke **start** procedure.
    - If new input string in transmitter dictionary, go to 1
    - If new input string not in transmitter dictionary
      - add new input string as next entry in transmitter dictionary
      - transmit code for new string without last symbol
      - delete transmitted string from input
- Go to 1

## LZW Receiver Operation

When code received,

- Find received code in dictionary and translate to symbol string
- Output symbol string
- If incomplete dictionary entry exists,
  - complete that entry by appending first symbol of received string
- Create new incomplete dictionary entry beginning with received string

## LZW Transmitter End Conditions

### Start Condition

On startup,

Transmit **start** code (256)

Delete all items in dictionary past item 257

### Stop Condition

At last symbol of message,

Transmit remaining input string

Transmit **stop** code (257)

## LZW Receiver End Conditions

### Start Condition

When **start** code (256) received

Delete all items in dictionary past item 257

### Stop Condition

When **stop** code (257) received

Stop

**RECEIVER**

**CHANNEL**

**TRANSMITTER**

**Message**

foo foo

**Transmitter Dictionary**

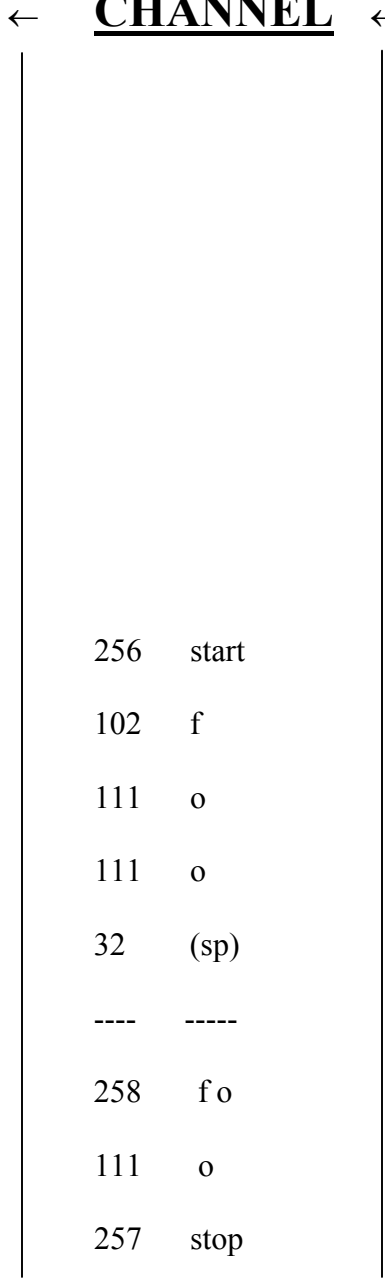
**Receiver Dictionary**

**Output**

32 (sp)  
 102 f  
 111 o  
 256 start  
 257 stop

f  
 o  
 o  
 (sp)  
 ---  
 f o  
 o

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**Input**

32 (sp)  
 102 f  
 111 o  
 256 start  
 f 257 stop  
 f o 258 f o  
 o o 259 o o  
 o (sp) 260 o (sp)  
 (sp) f 261 (sp) f  
 f o  
 f o o 262 f o o  
 o  
 stop

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