|  |  |  |  |
| --- | --- | --- | --- |
| **FILTER NUMBER** | | **CORRESPONDING FREQUENCY(Hz)** | |
| 01 | | 300 | |
| 02 | | 383.42 | |
| 03 | | 473.79 | |
| 04 | | 571.71 | |
| 05 | | 677.80 | |
| 06 | | 792.74 | |
| 07 | | 917.27 | |
| 08 | | 1052.2 | |
| 09 | | 1198.3 | |
| 10 | | 1356.7 | |
| 11 | | 1528.3 | |
| 12 | | 1714.2 | |
| 13 | | 1915.6 | |
| 14 | | 2133.7 | |
| 15 | | 2370.1 | |
| 16 | | 2626.3 | |
| 17 | | 2903.03 | |
| 18 | | 3204.4 | |
| 19 | | 3530.1 | |
| 20 | | 3882.9 | |
| 21 | | 4265.2 | |
| 22 | | 4679.4 | |
| 23 | | 5128.2 | |
| 24 | | 5614.4 | |
| 25 | | 6141.1 | |
| 26 | | 6711.8 | |
| 27 | | 7330.1 | |
| 28 | | 8000 | |
| SL.NO | DIGITS | | PHONEMES | |
| 01 | ZERO | | ZIY ROW | |
| 02 | ONE | | WA N | |
| 03 | TWO | | T UW | |
| 04 | THREE | | TH RIY | |
| 05 | FOUR | | F OW R | |
| 06 | FIVE | | F AY V | |
| 07 | SIX | | S IH K S | |
| 08 | SEVEN | | S EH V EH N | |
| 09 | EIGHT | | EY T | |
| 10 | NINE | | N AY N | |

VOWELS PATTERNS:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | E | I | O | U |
| a\_e | e\_e | i\_e | o\_e | u\_e |
| ai | ee | igh | oa | ue |
| eigh/ei | ea/ie | -y | ow/ou | ew/eu |

**PHONEMES AND THEIR CORRESPONDING FREQUENCIES:**

|  |  |  |  |
| --- | --- | --- | --- |
| **SL.NO** | **NUMBERS** | **PHONEMES** | **FREQUENCY RANGE(Hz)** |
| 01 | ZERO | ZIY  RO | 4200-6500(22,23,24,25)  200-1500(1-10) |
| 02 | ONE | W AE  N | 200-1200 &4000-5600 (1-9)&(18,19,22,23)  600-1600(9,10,11) |
| 03 | TWO | T  UW | 400-1200(1,6,7)  300-600(1,5) |
| 04 | THREE | TH  R IY | 1,12,13,21,22  1700-2800(12,13,14) |
| 05 | FOUR | F  OW  R | 11,12,13,15  100-1000(1-5)  500-1200(6,7) |
| 06 | FIVE | F  AY  V | 11,12,13,15  450-1300(3-9)  12,13 |
| 07 | SIX | S IH  K  S | 4500-6000(22,23,24)  2000(12,13)  4000-7000(21,22,23,24,25) |
| 08 | SEVEN | S  EH  V  EH  N | 4500-6000(22,23,24)  500&1500(2,3 & 11)  11,12  500&1500(2,3 & 11)  500-1500(9,10) |
| 09 | EIGHT | EY  T | 2000-2500(14,15,16)  16,17,18,19 |
| 10 | NINE | N  AY N | 600-1600(9,10,11)  13,14,15 |

Start and record the audio signal

Sample the recorded audio signal a Fs=16000Hz

Windowing of frame Frame =y(t)\*Hamming window

Finding energy of frame E=∑((X[i])^2)

Calculate the Log of energy Le=10\*log10(E) Le=Le+60dB

**If the energy of the frame greater than the threshold 40dB**

Discard the frames

NO

YES

Retain the Frames which has the Energy greater than Threshold

De-overlapping