ORIGINAL DIGITIAL

Dits, Dahs, Spaces and Your Brain

How to Listen Ahead, Copy Behind, While Building a CW Buffer

By Bill Balzarini KL7BB

KL7BB@Yahoo.com

Practice Examples

This part is going to show a sample practice of the sentence

"THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK".

This will Start with 5WPM code sent at a 15wpm letter rate. At the start it will be one on one copy and move up to delayed copy,,, Then to 1 delayed and finally 2 delayed.

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K _ _ _ _ _ _ _ _ _ _ _ _ B R O W N

_ _ _ _ _ _ _ _ _ _ _ _ F O X _ _ _ _ _ _ _ _ _ _ _ _ J U

M P E D _ _ _ _ _ _ _ _ _ _ _ _ O V E

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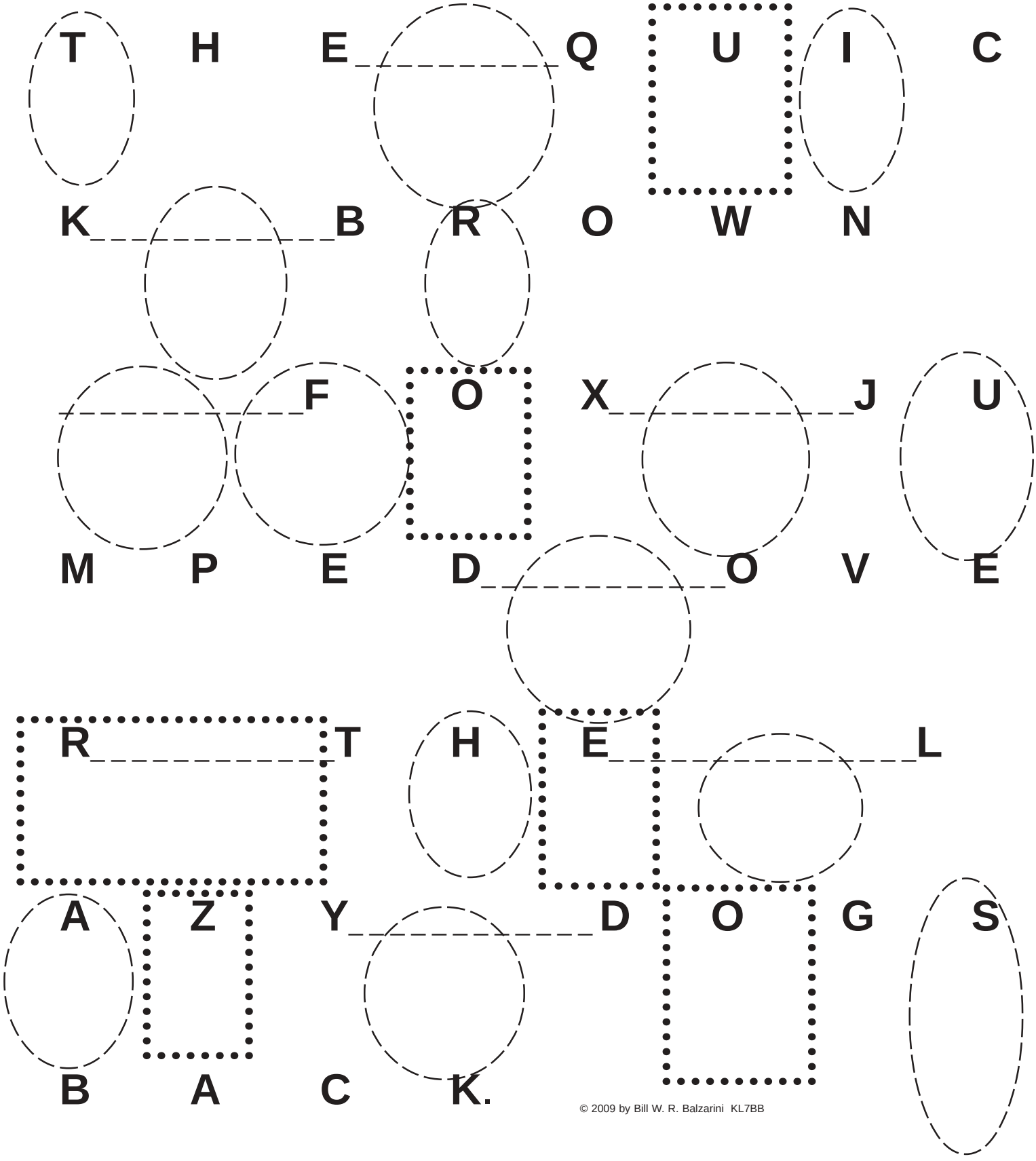
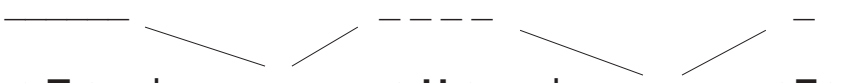


The following is an example of the word **“THE”** at 5 WPM.



< T > long space **< H >** long space **< E >**

At 15 WPM the long spaces become shorter.

< T > **< H >** **<E>** (Word Space) **<N>**

The most important element of the Morse Code is the **Longer** word space between words. While learning to recognize the “word space”, we can use the space as a tempo drumbeat or clock to tell ourselves that a new word is just about to start. The space between words starts just after the first word has been sent. Listen for the space.

<u>This Is What To Do.</u>

The idea is to make a game of speeding up the mind to enhance the entire copying process. The results can be improved by purposely causing the mind to do something else extra,..Like; delaying the writing (outputing) of the just-processed letter, until the ear hears the starting edge of the next letter,...then let the motor control part of the mind tell the hand to write the letter down on paper (delayed by 1, 2 or 3 letters). Now at the same time, the EAR has to refocus to the new incoming CW data, recognize it and get it ready to print. The delayed data is printed when the ear hears yet another code letter (or a long space between words). Following example is the word **T H E.**

hear T
hold T

hear H
print T
hold H

hear E
print H
hold E

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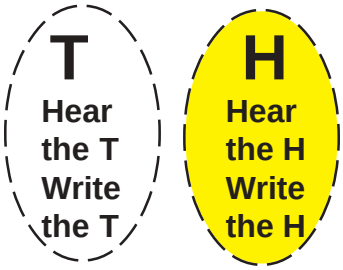

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H Hear the H Write the H

E Hear the E Write the E

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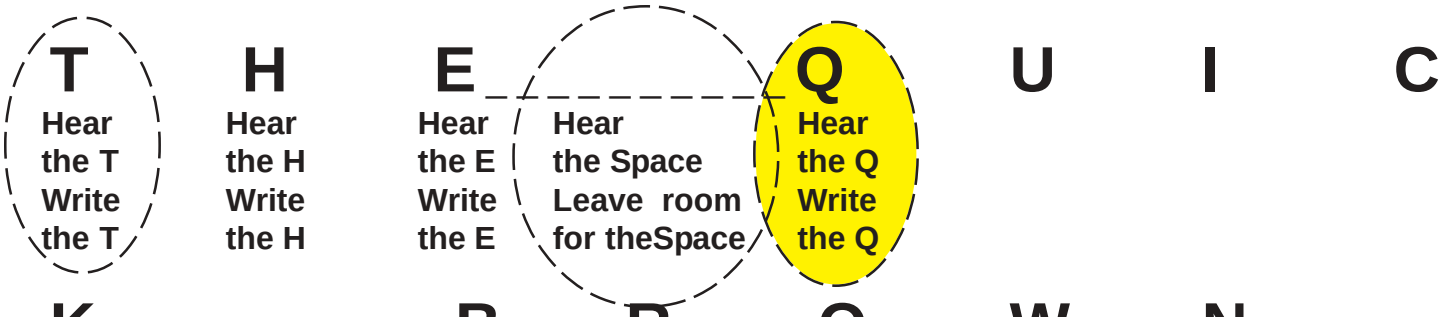

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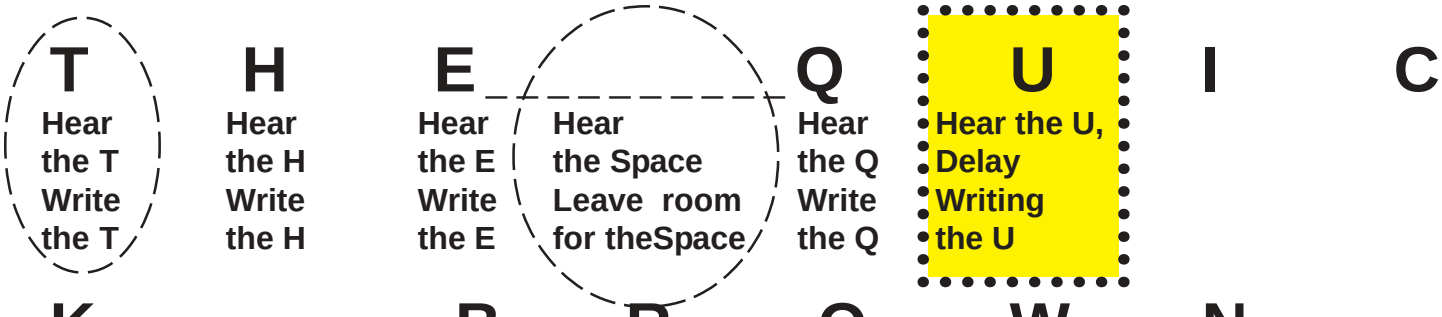

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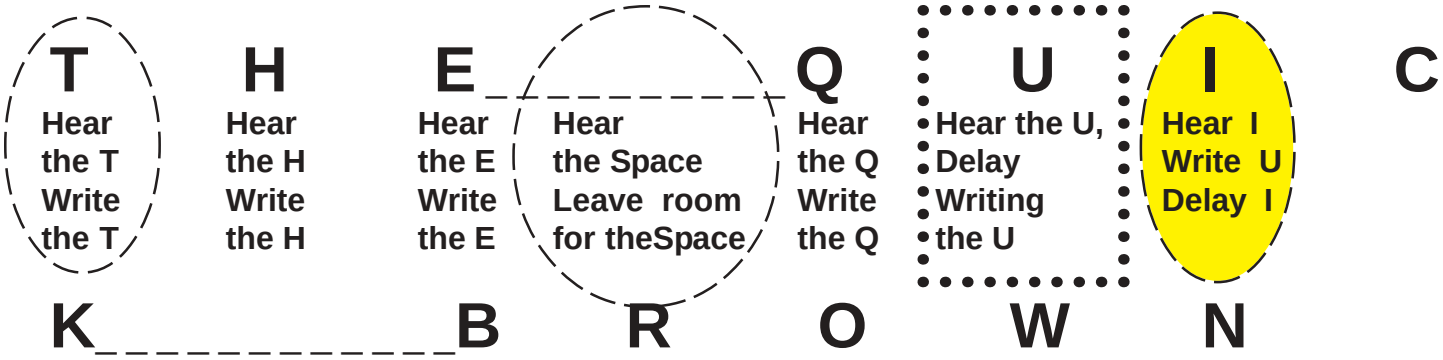

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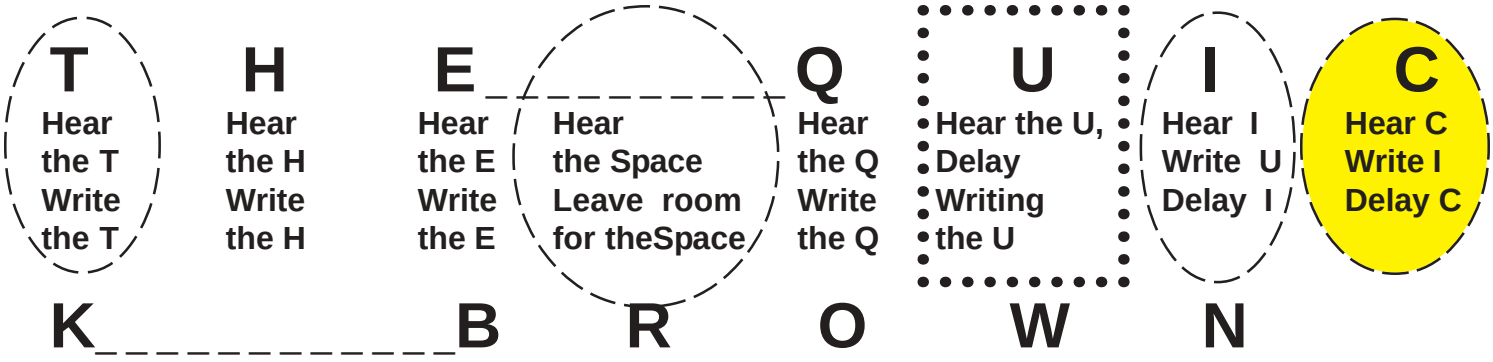

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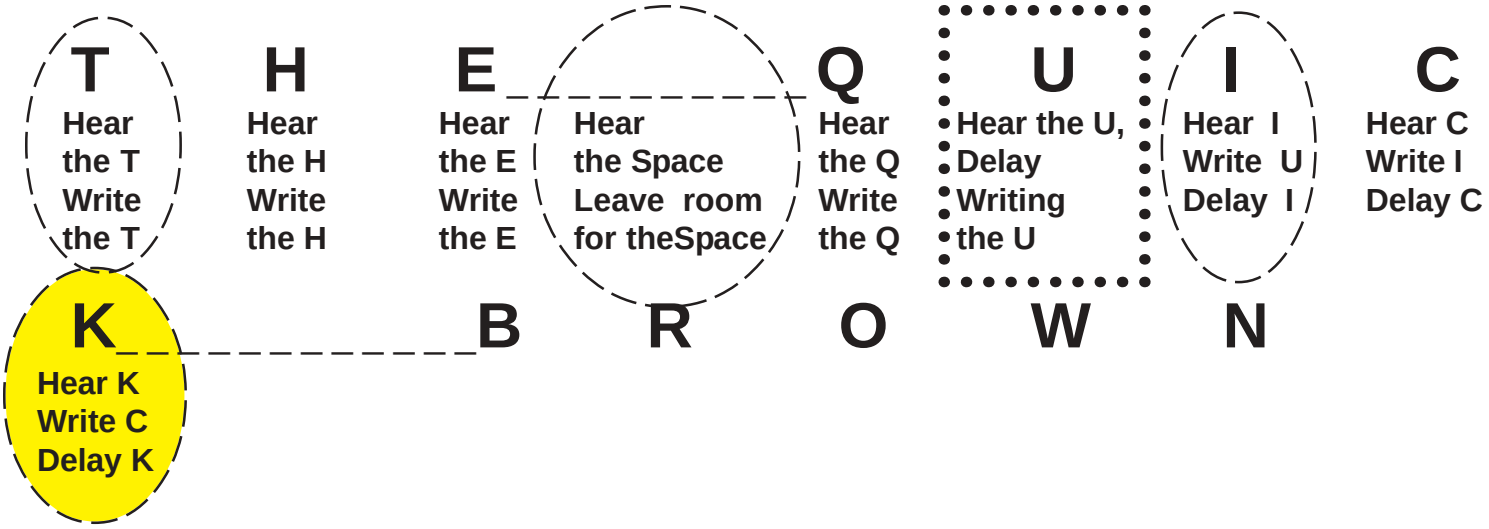

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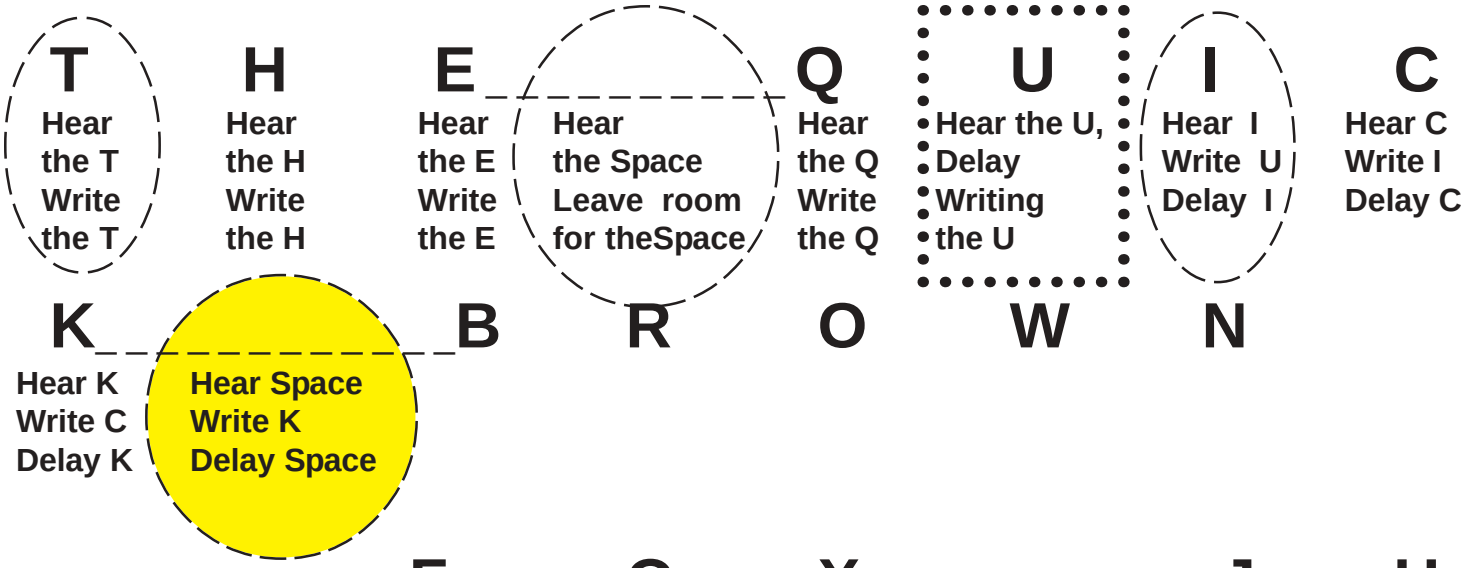

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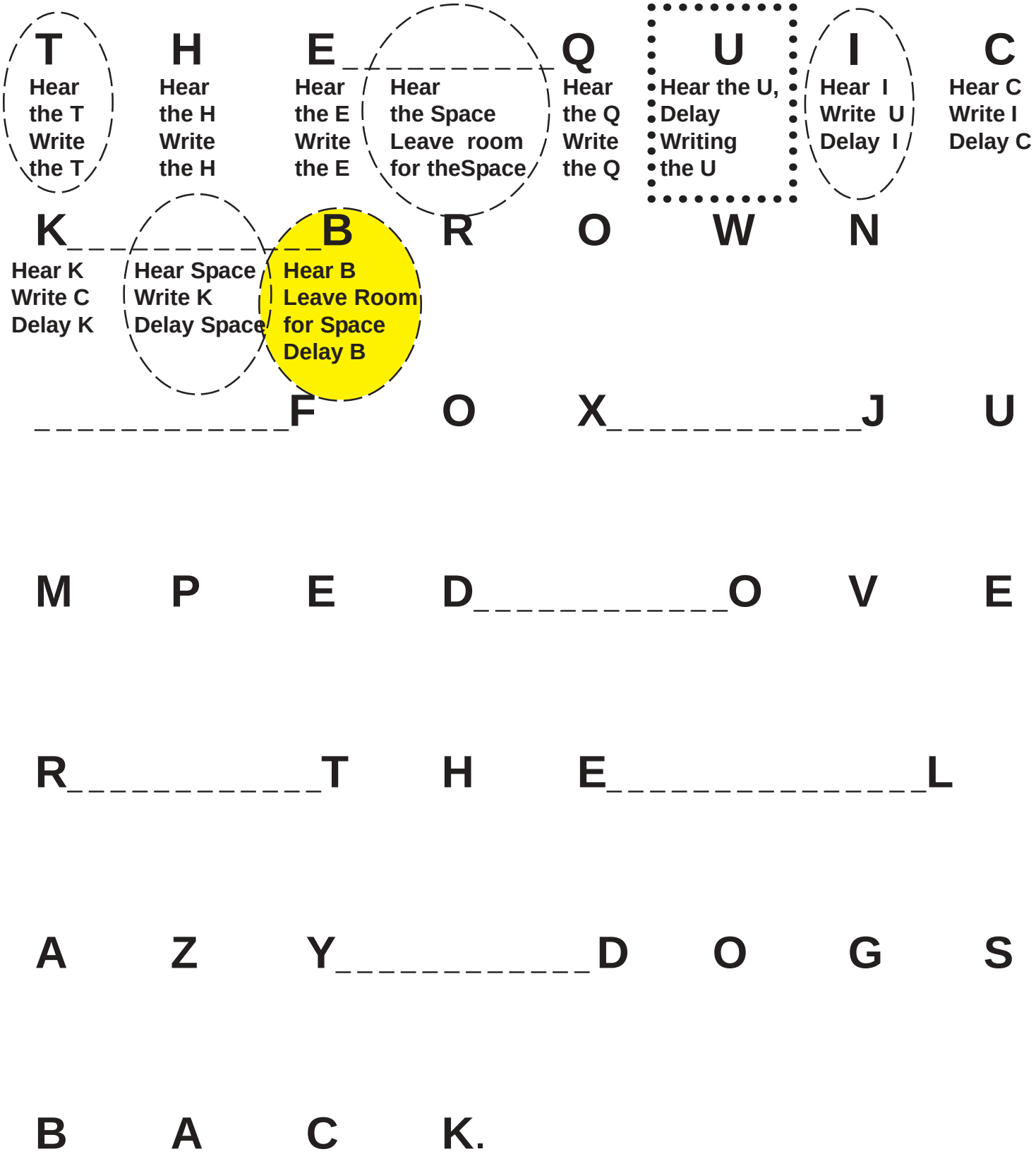

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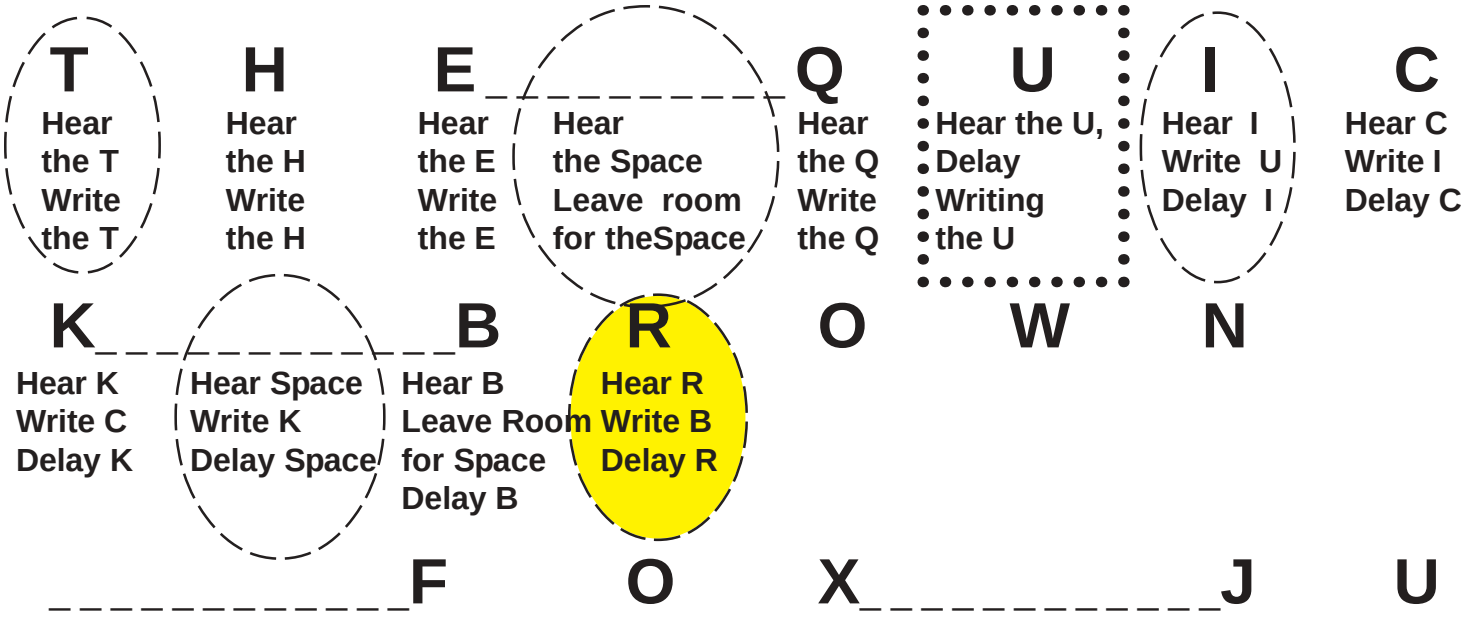

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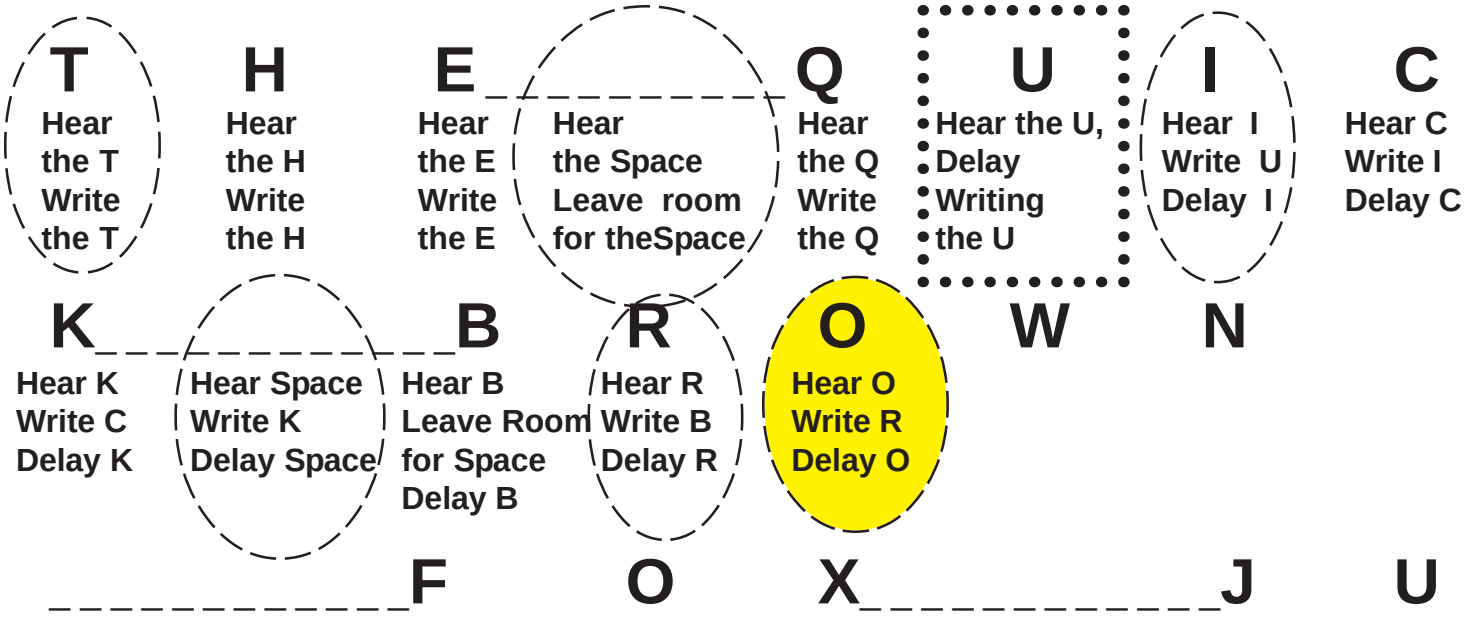

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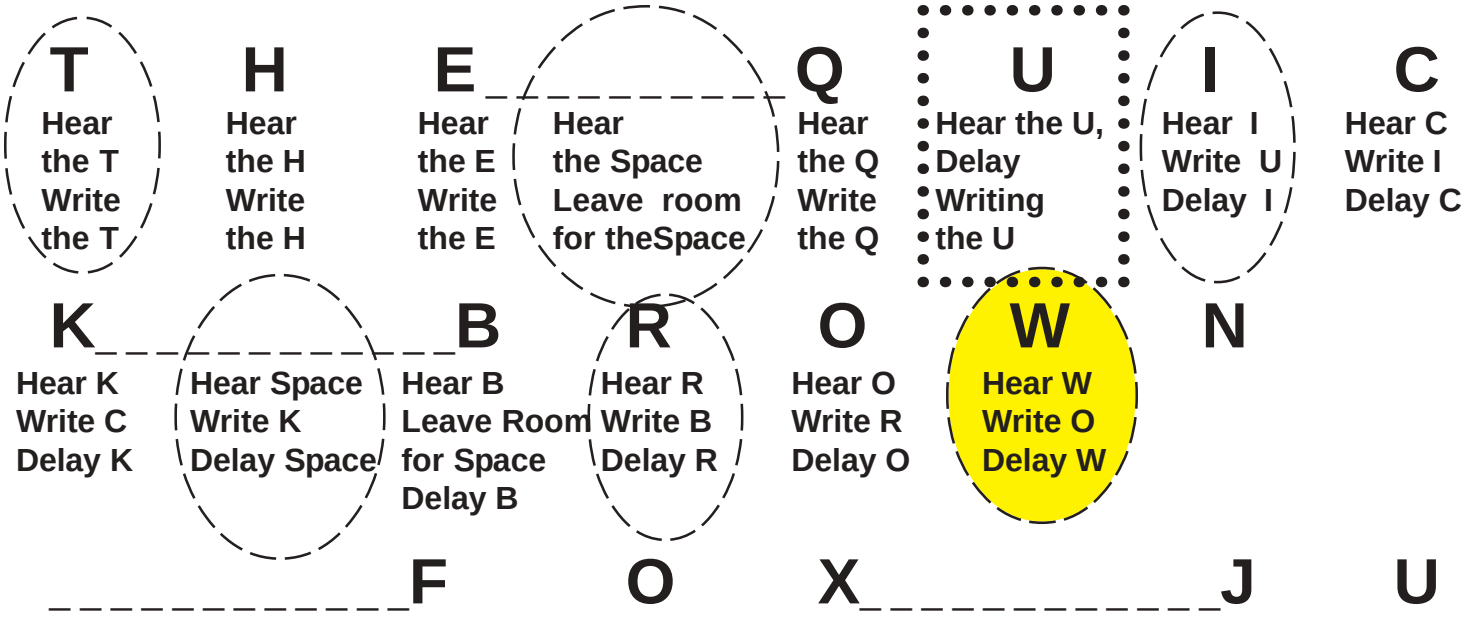

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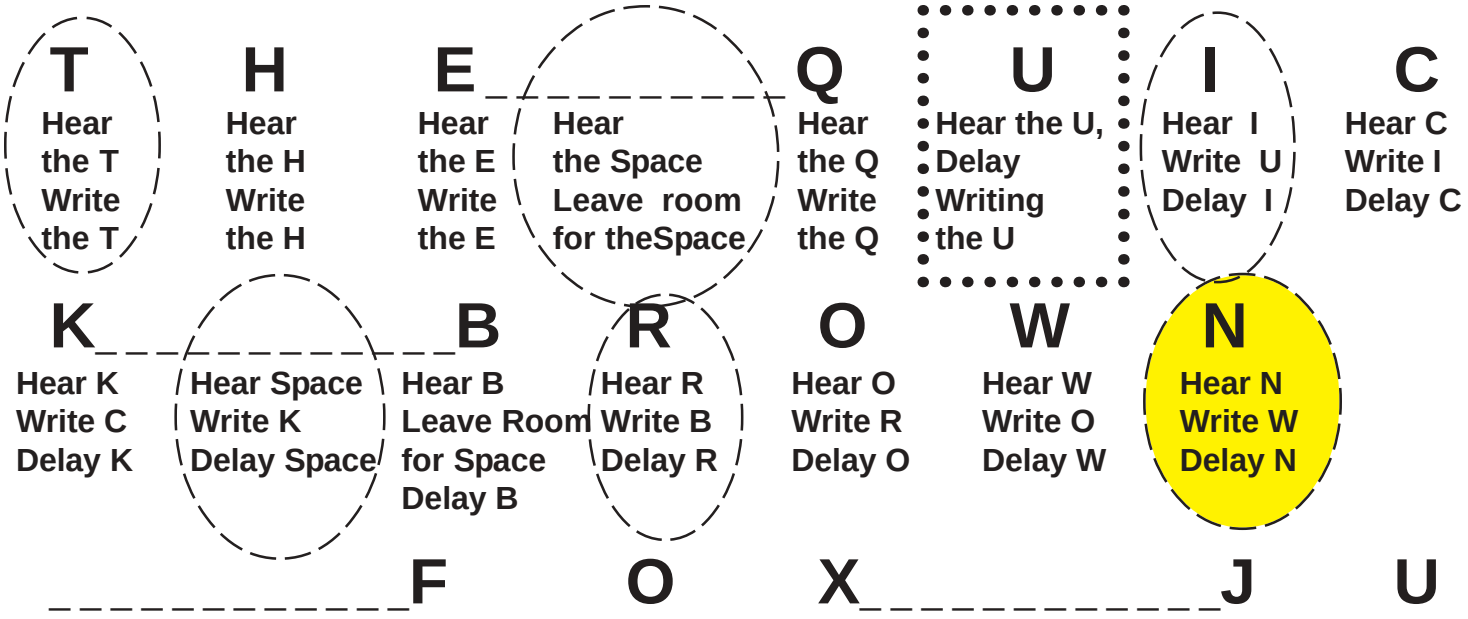

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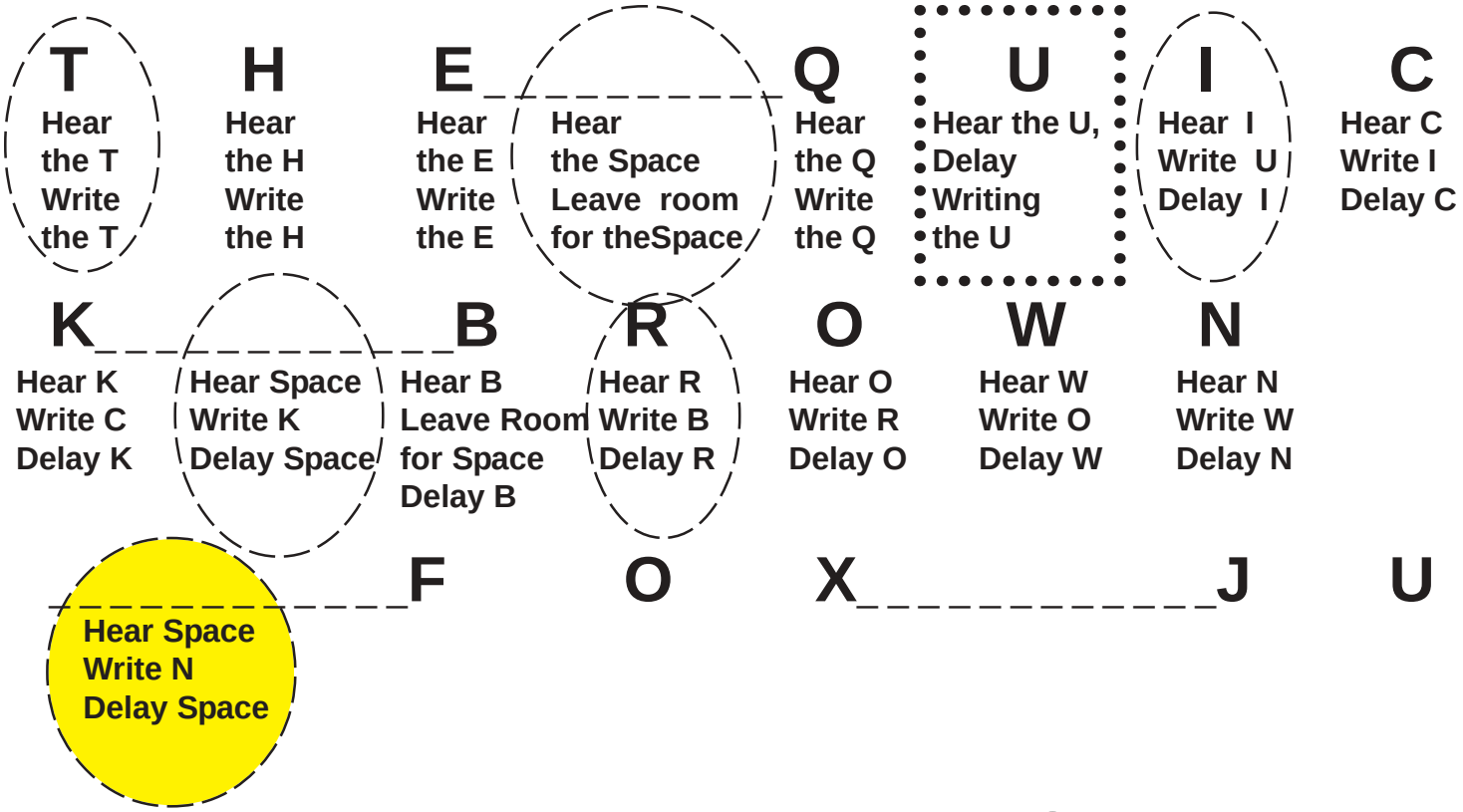

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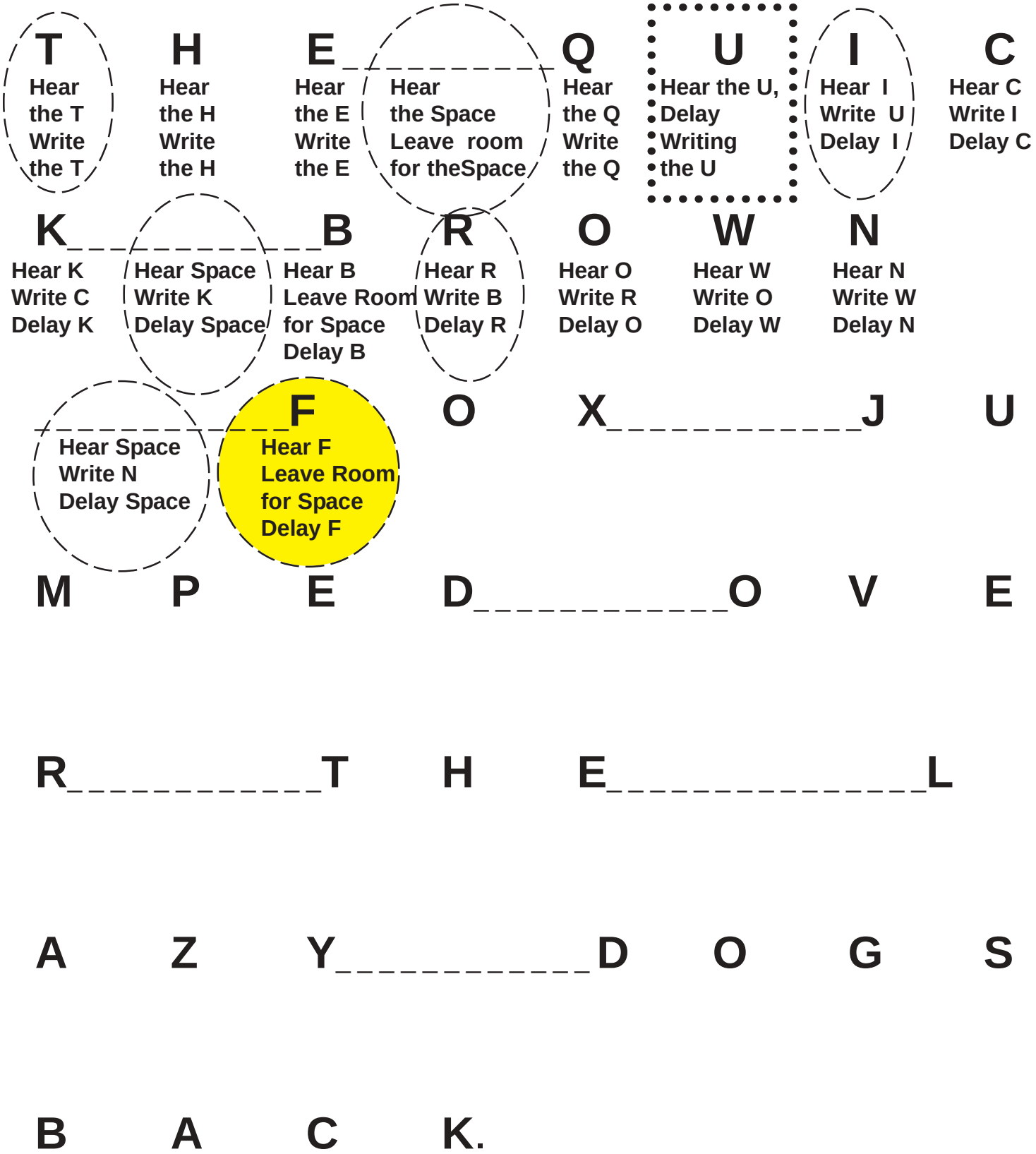

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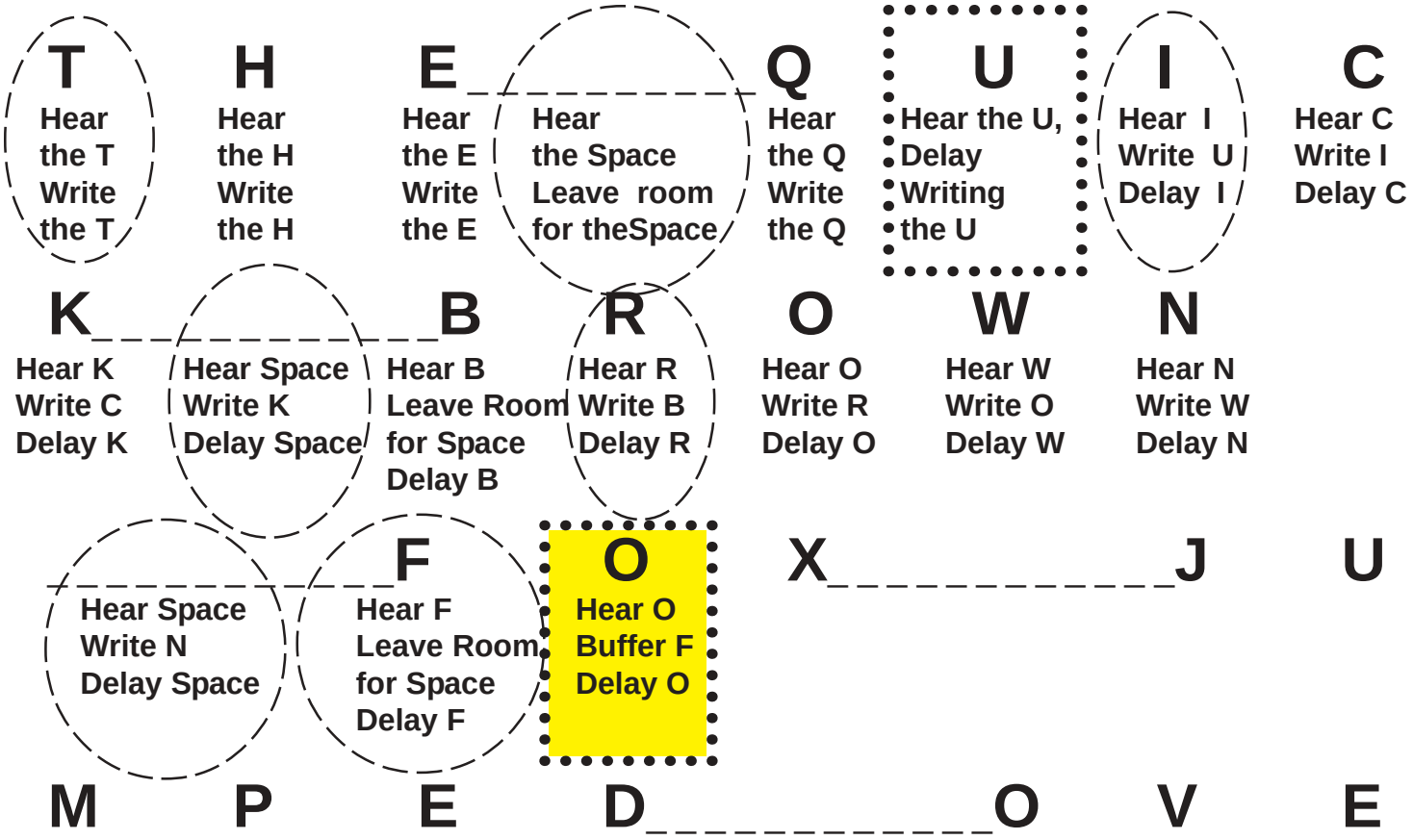

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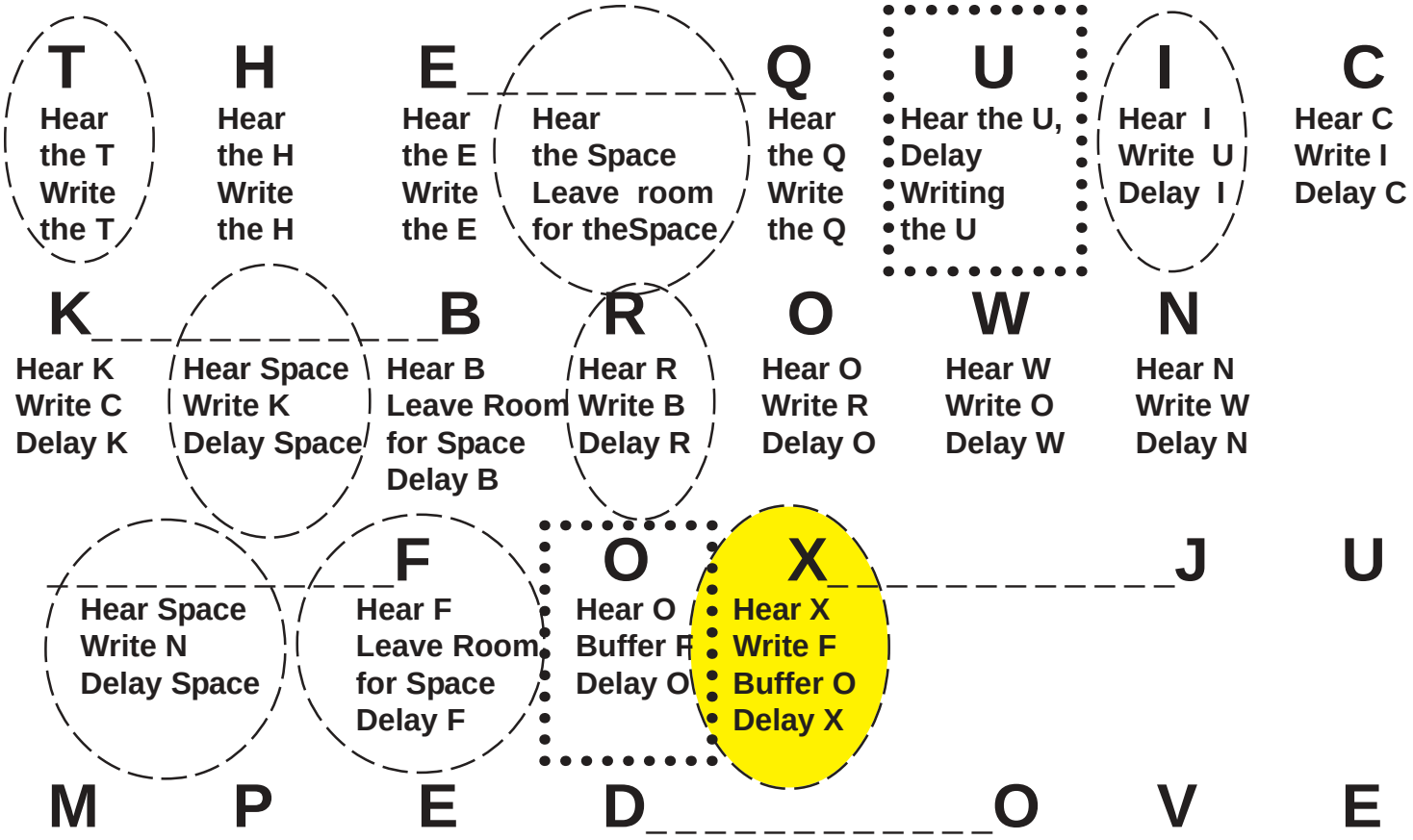

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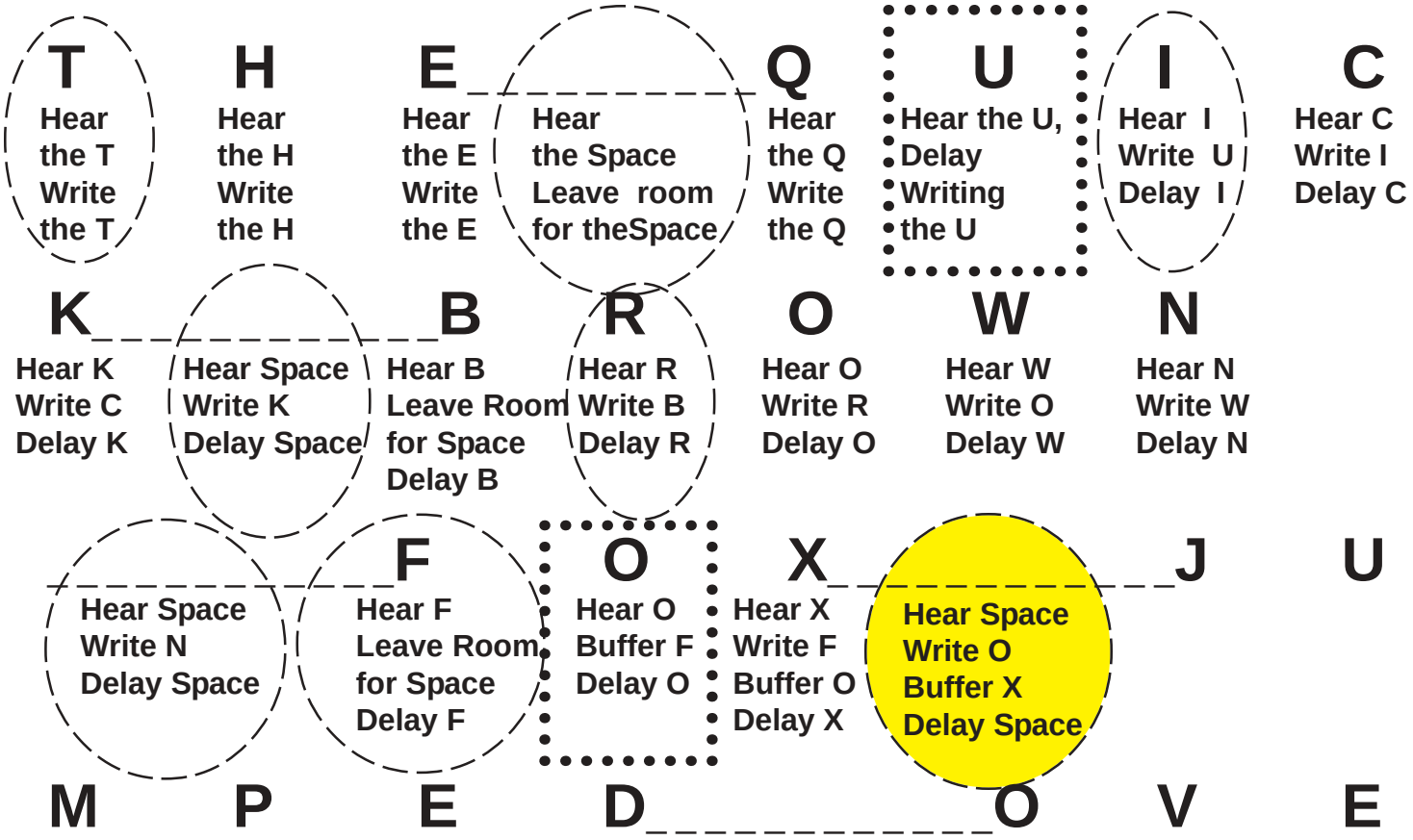

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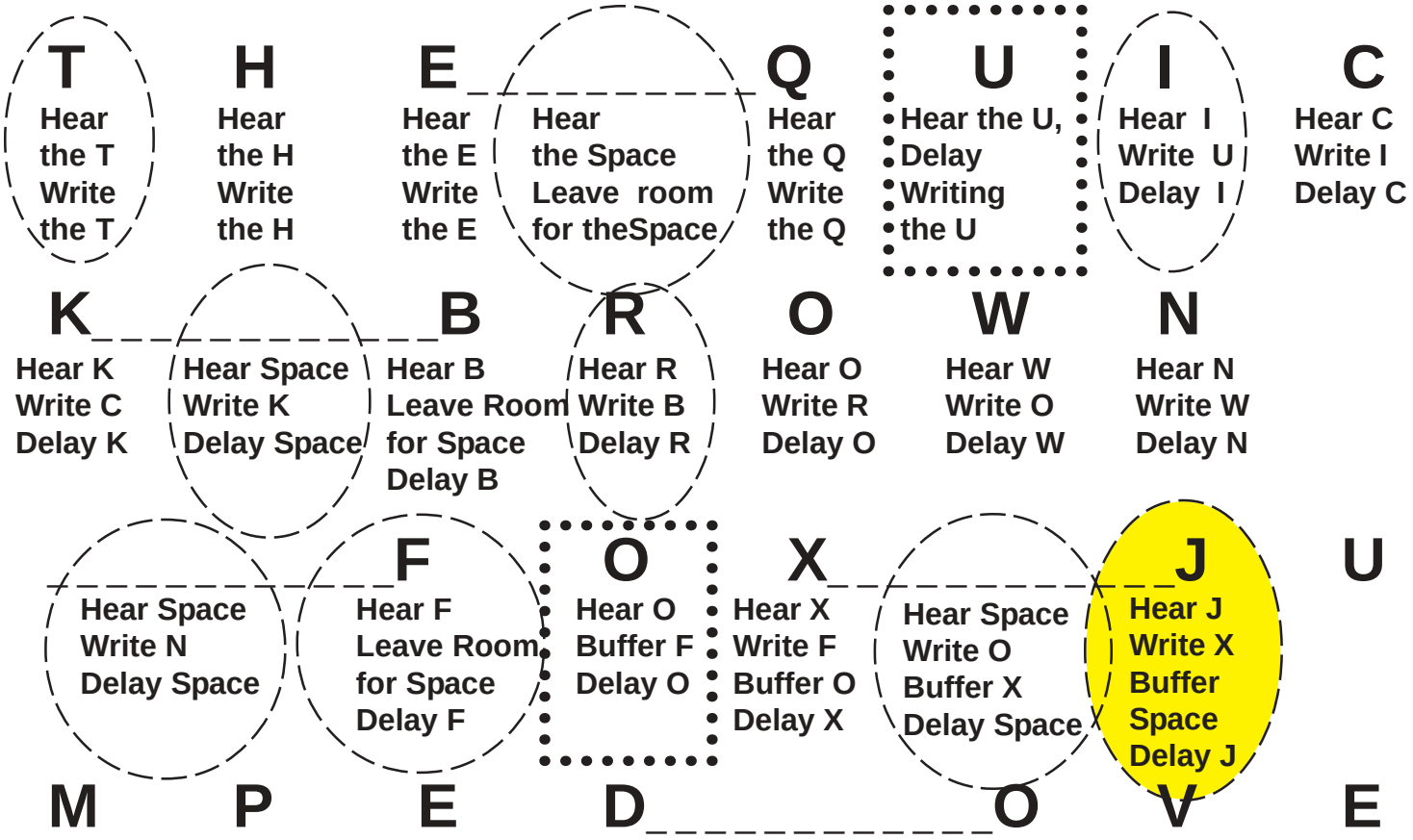

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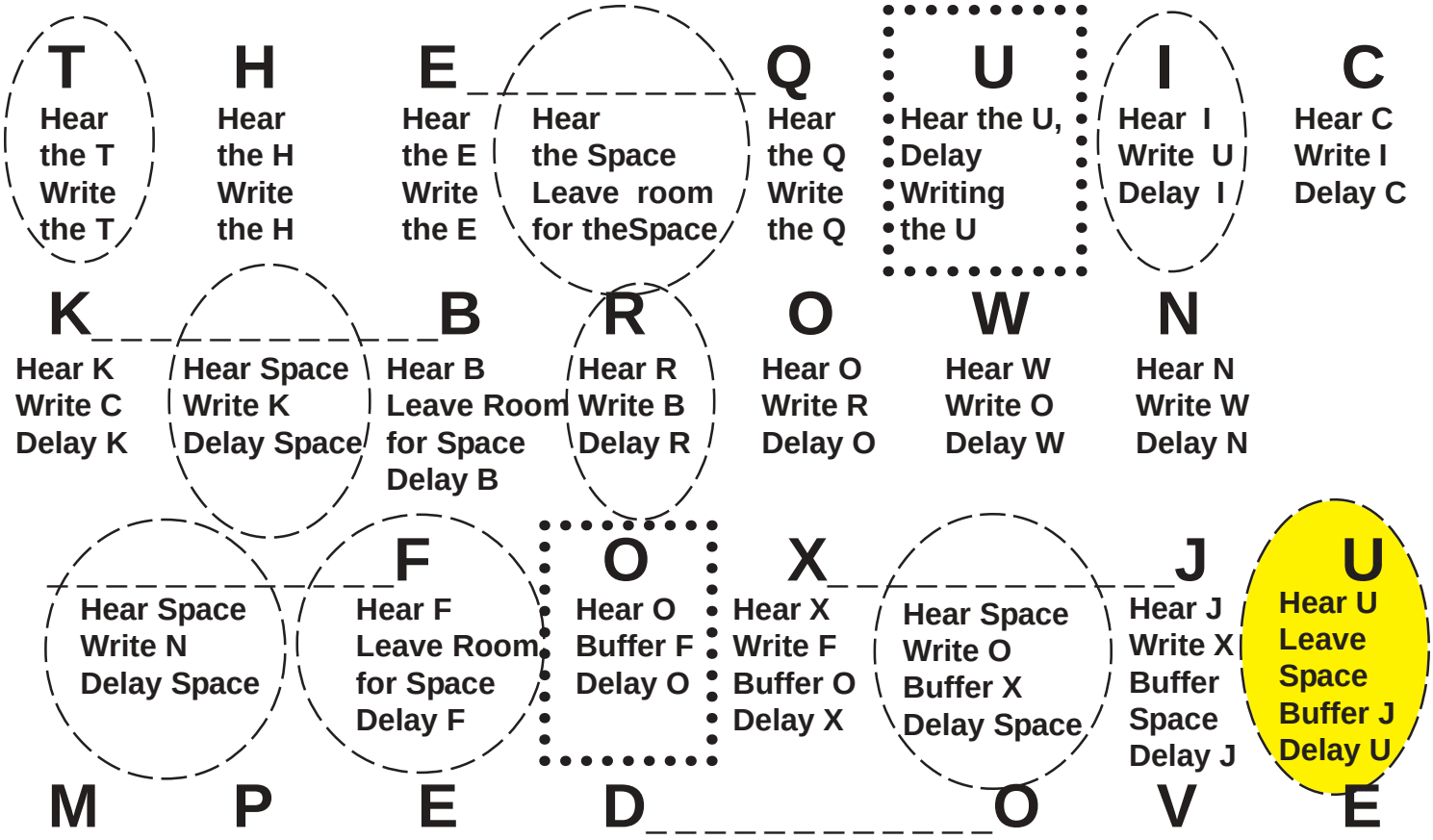

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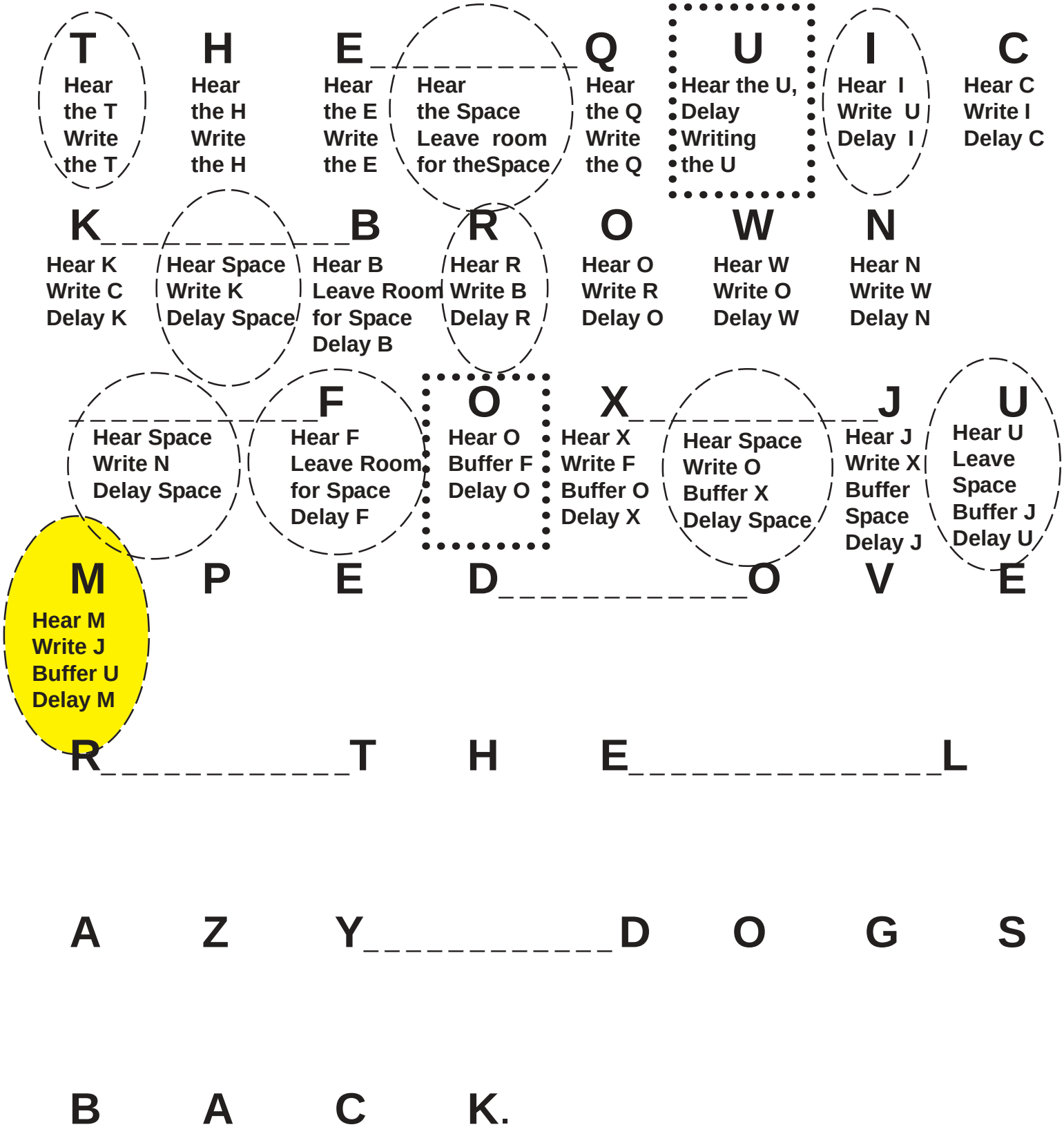

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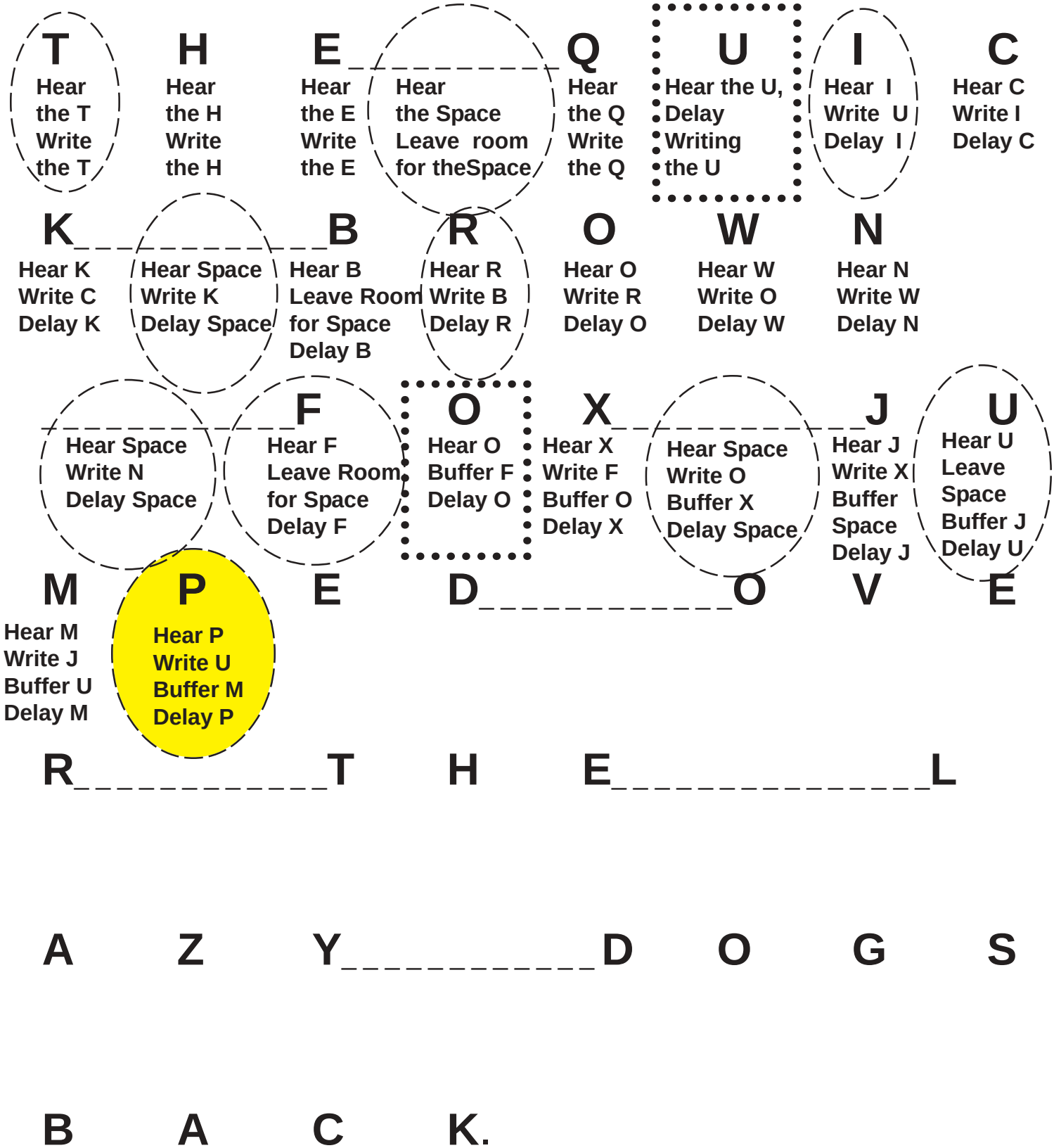

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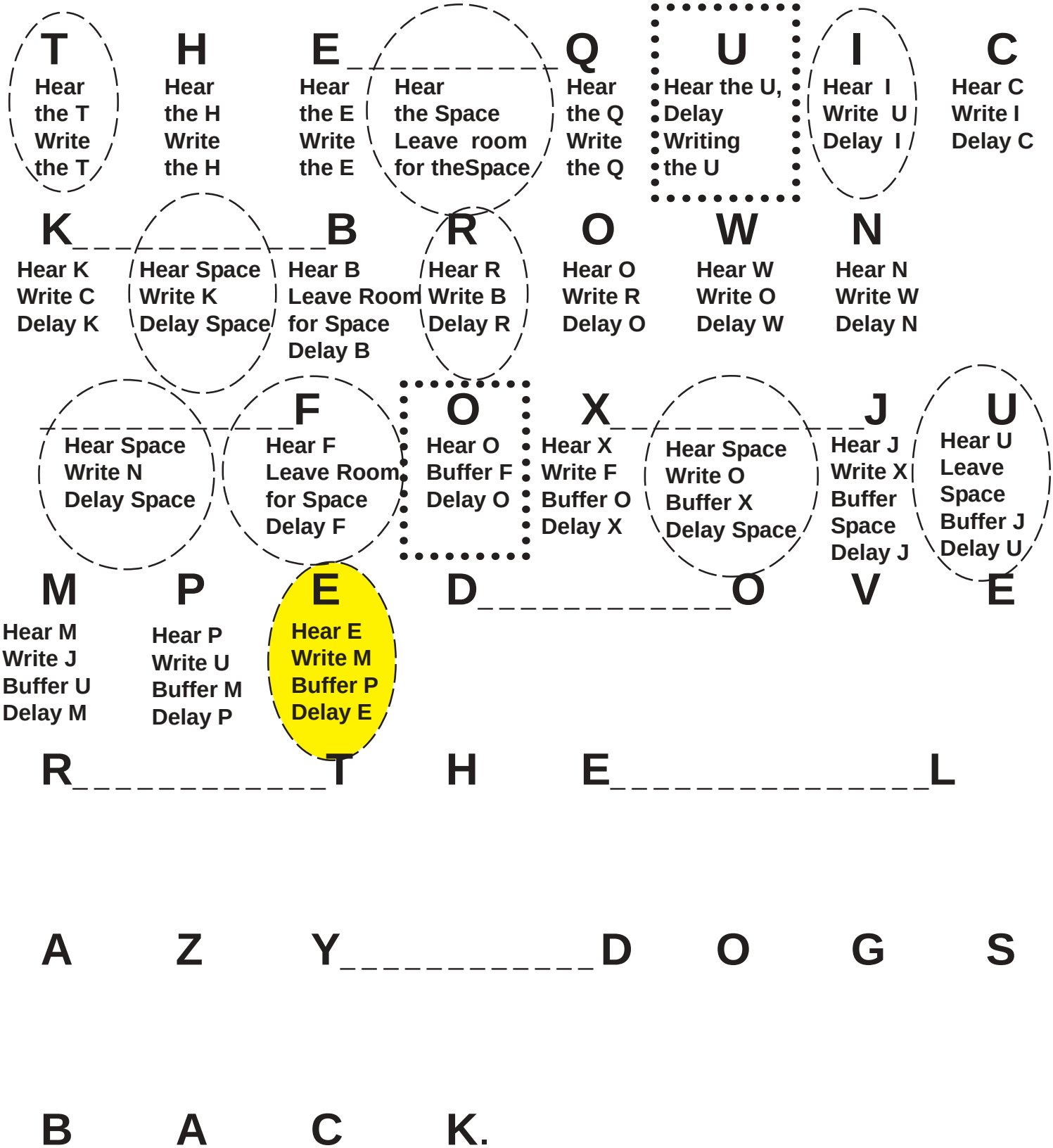

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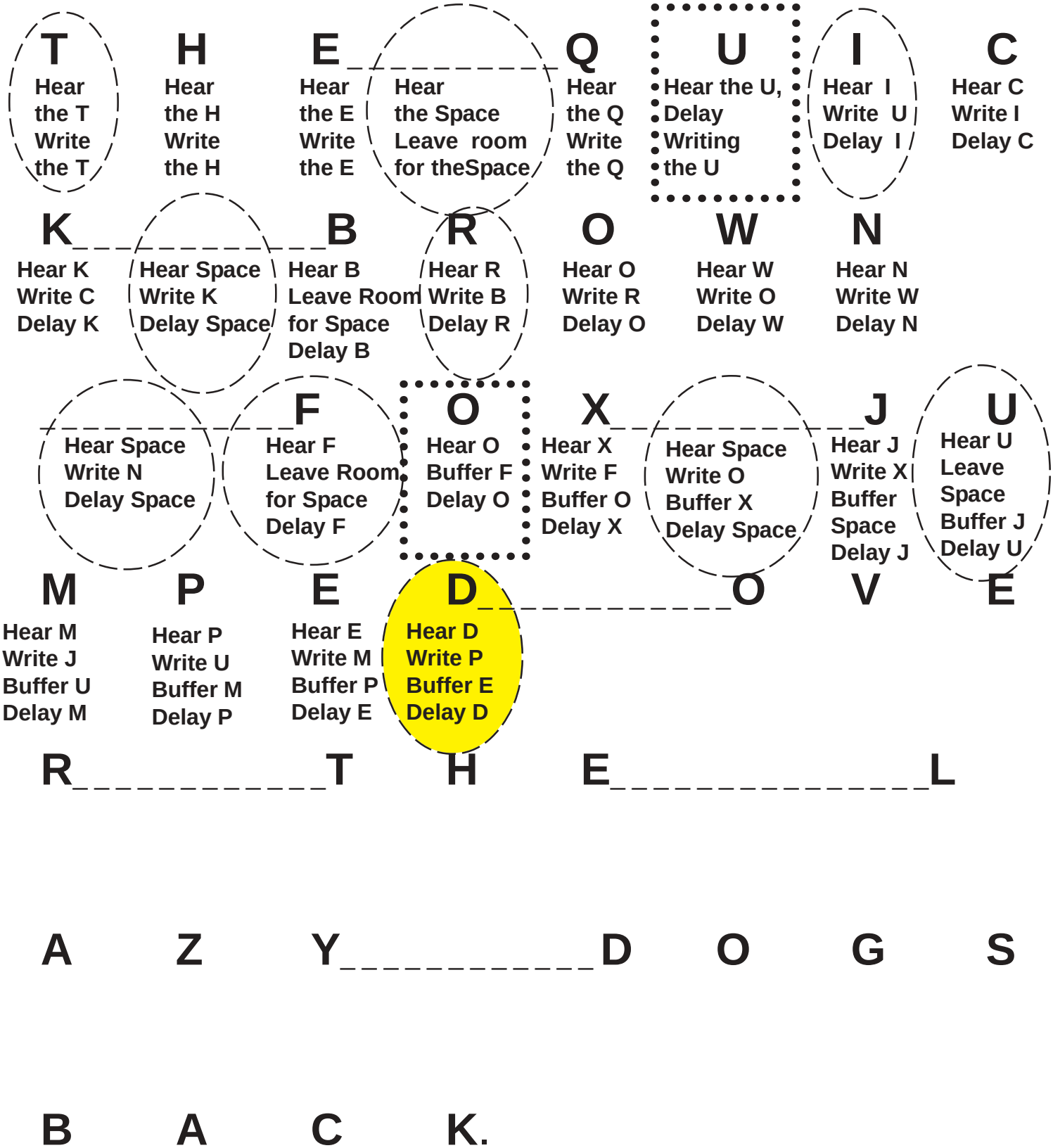

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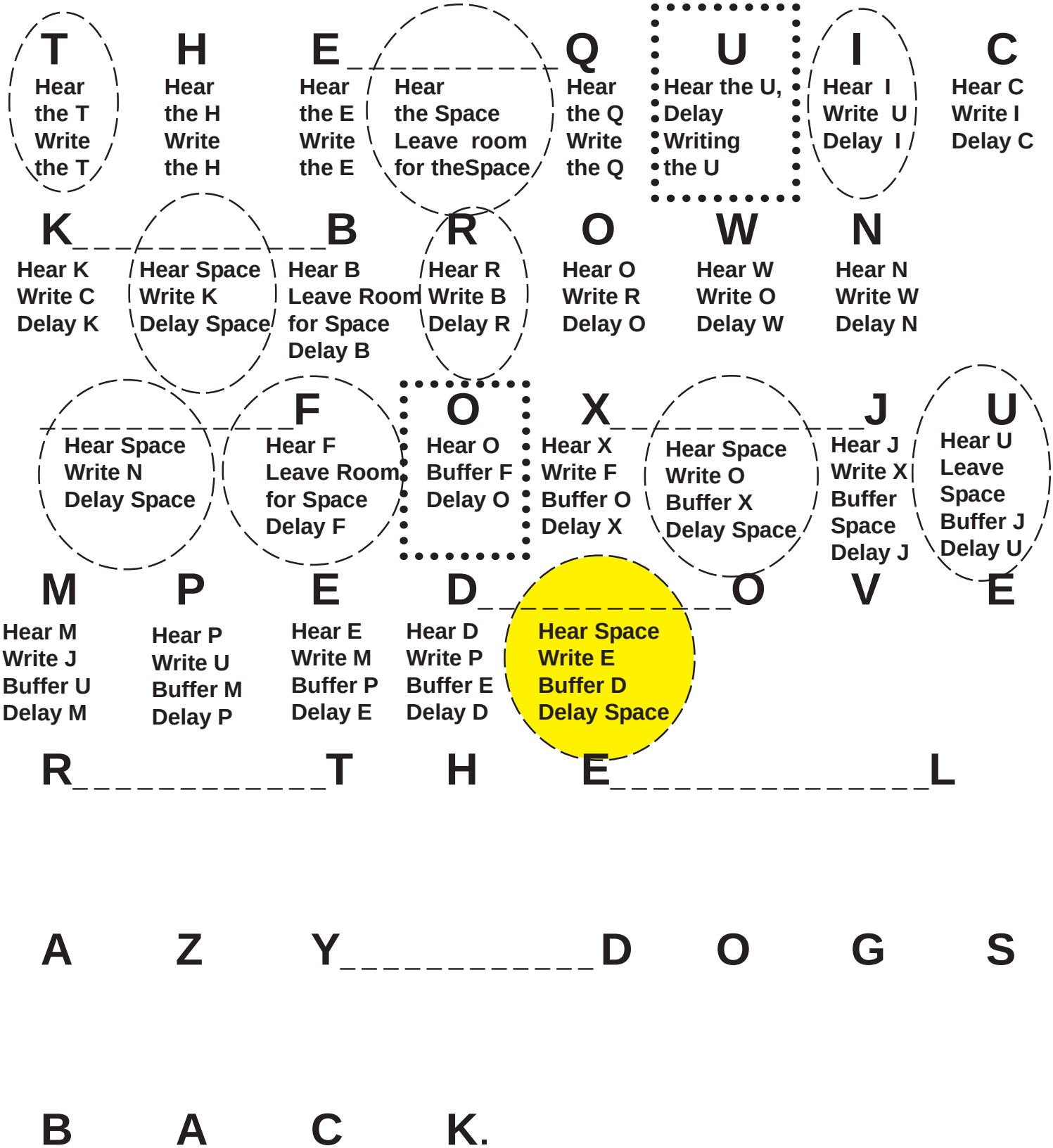

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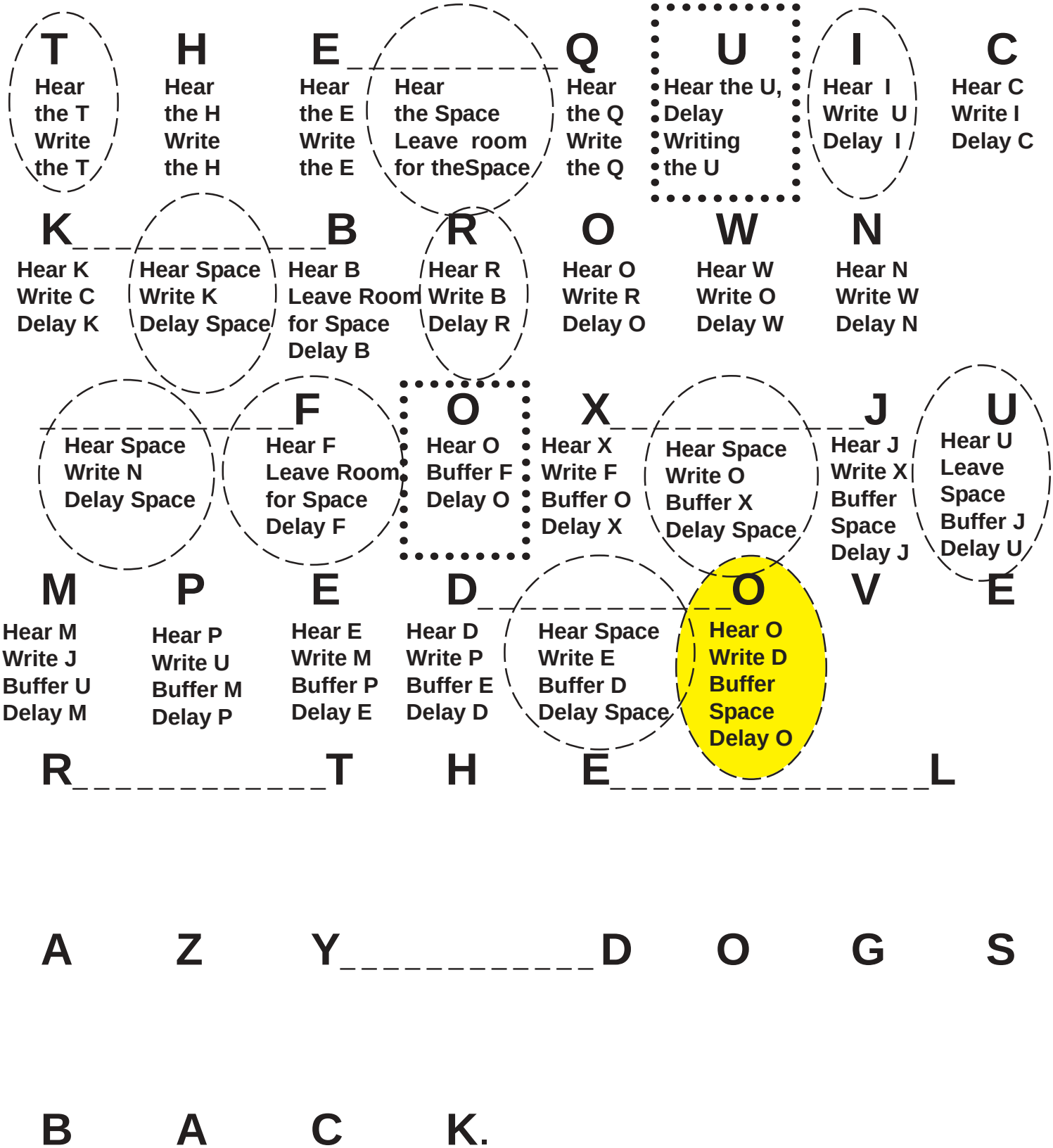

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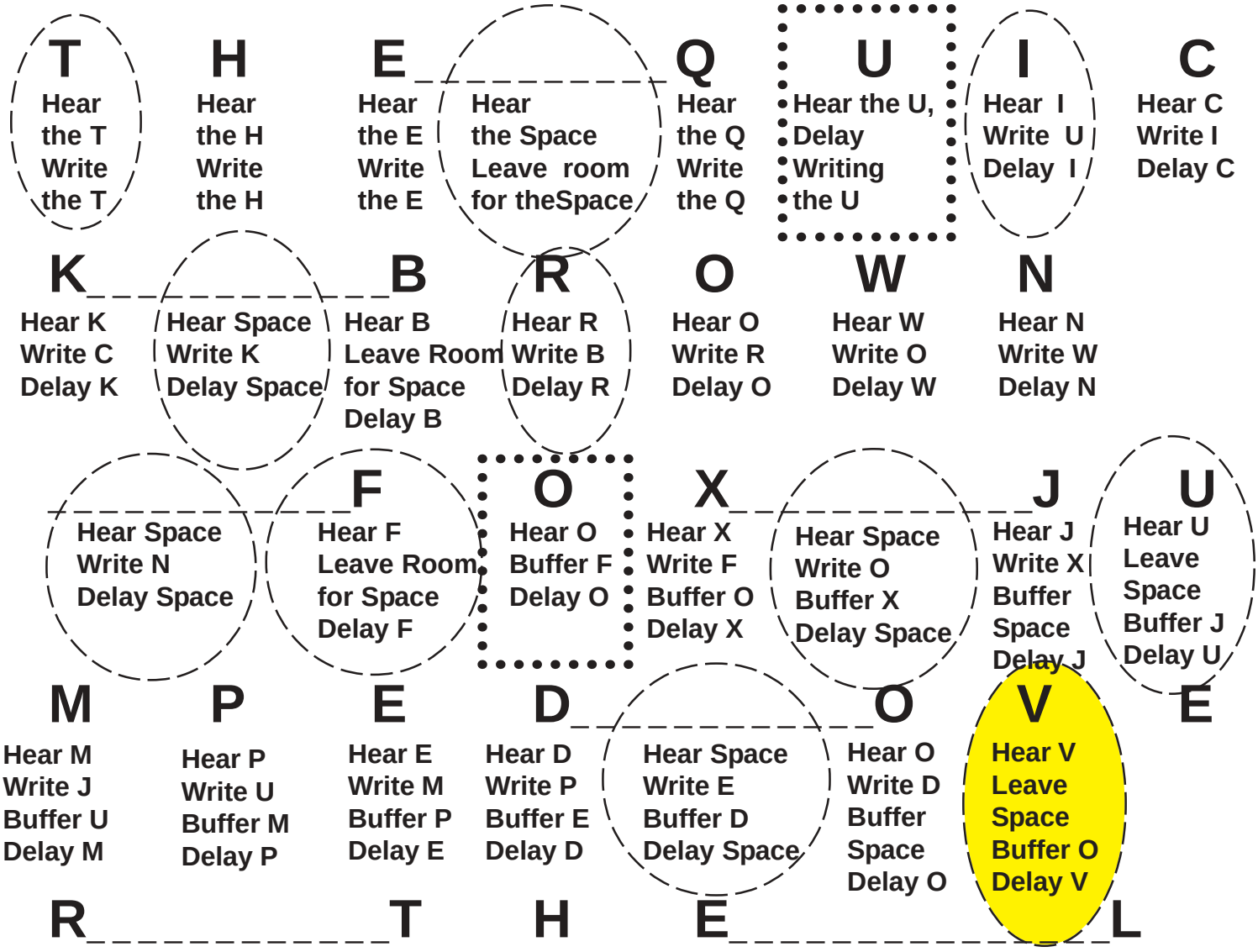

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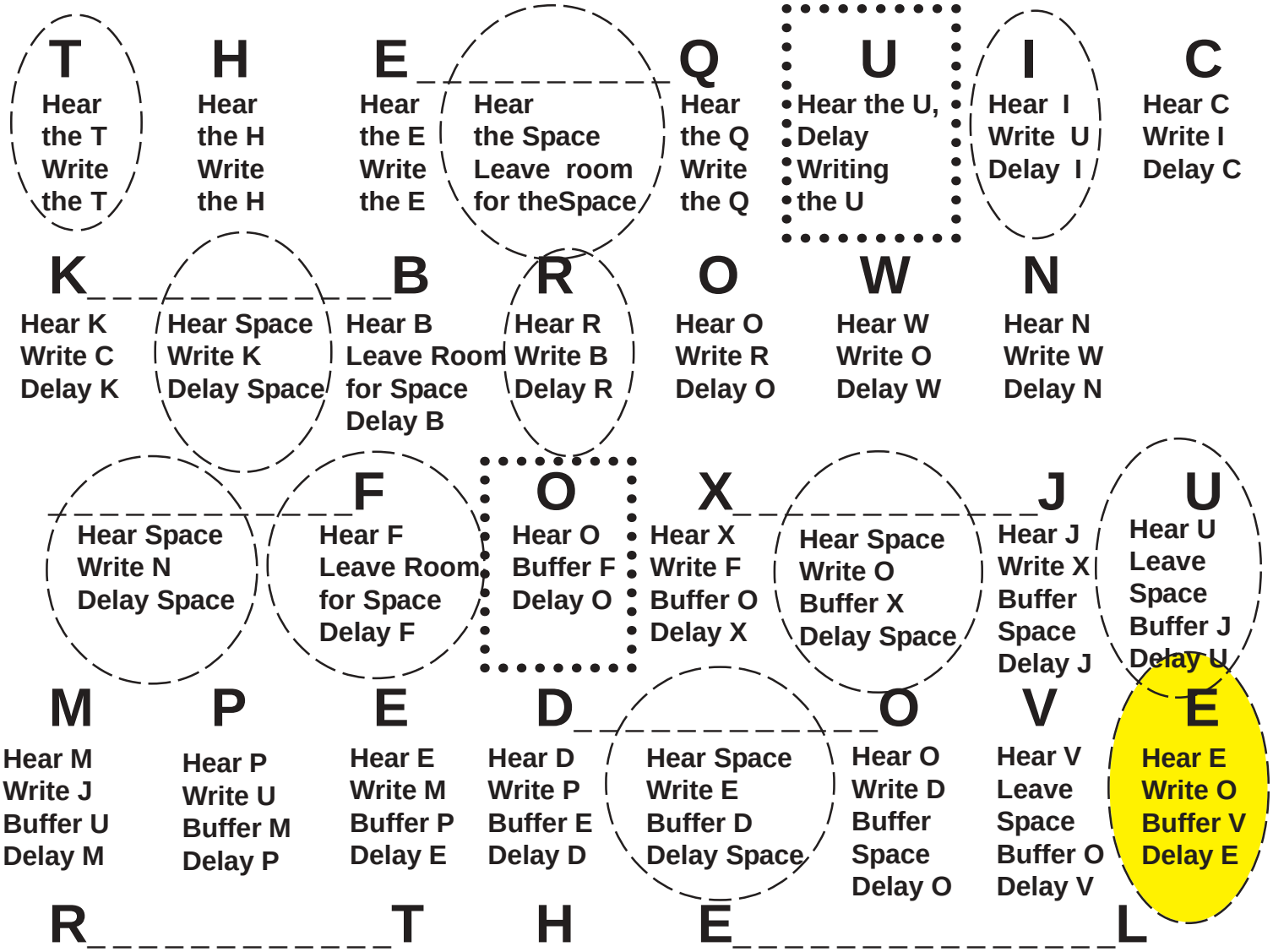

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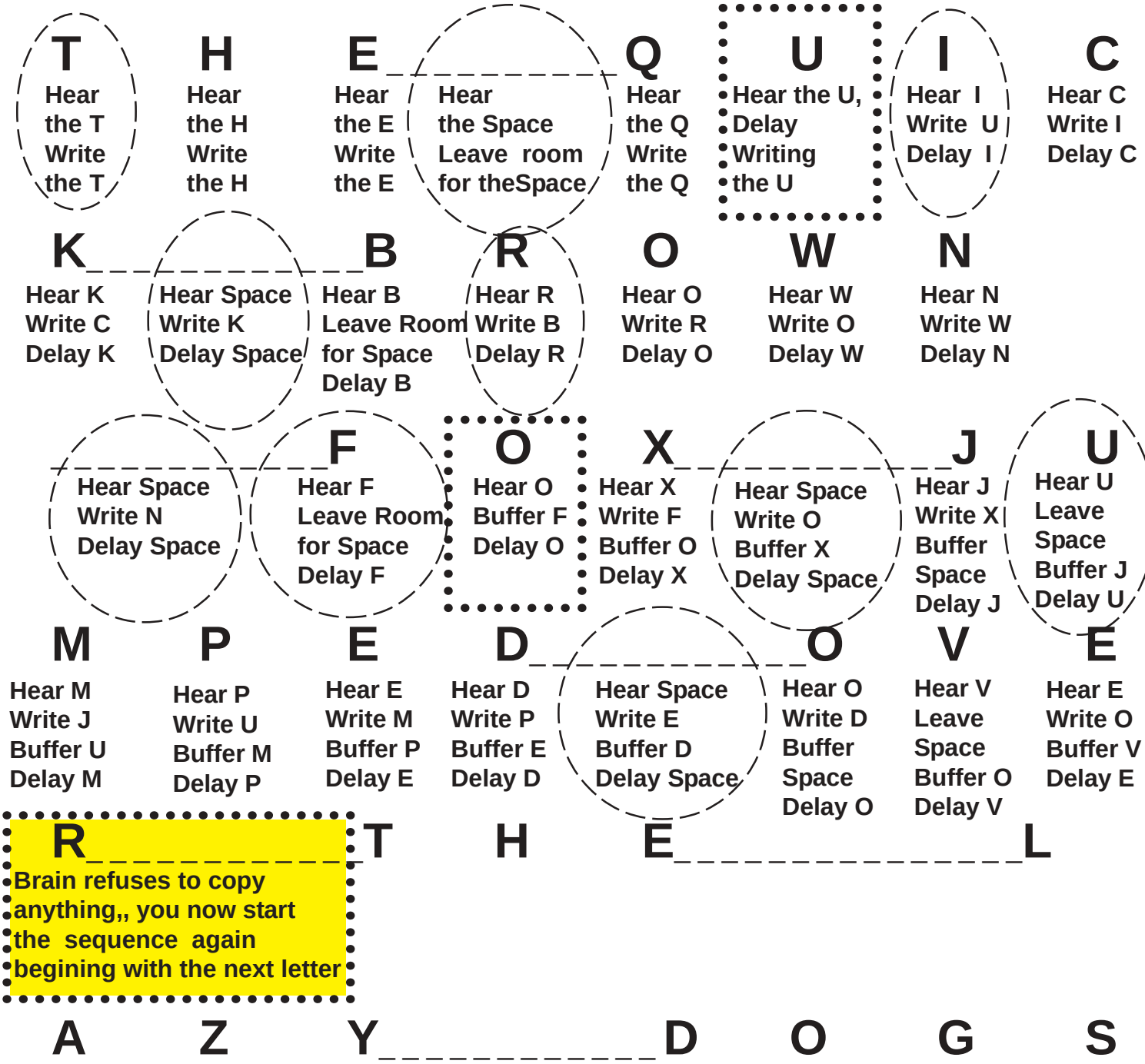

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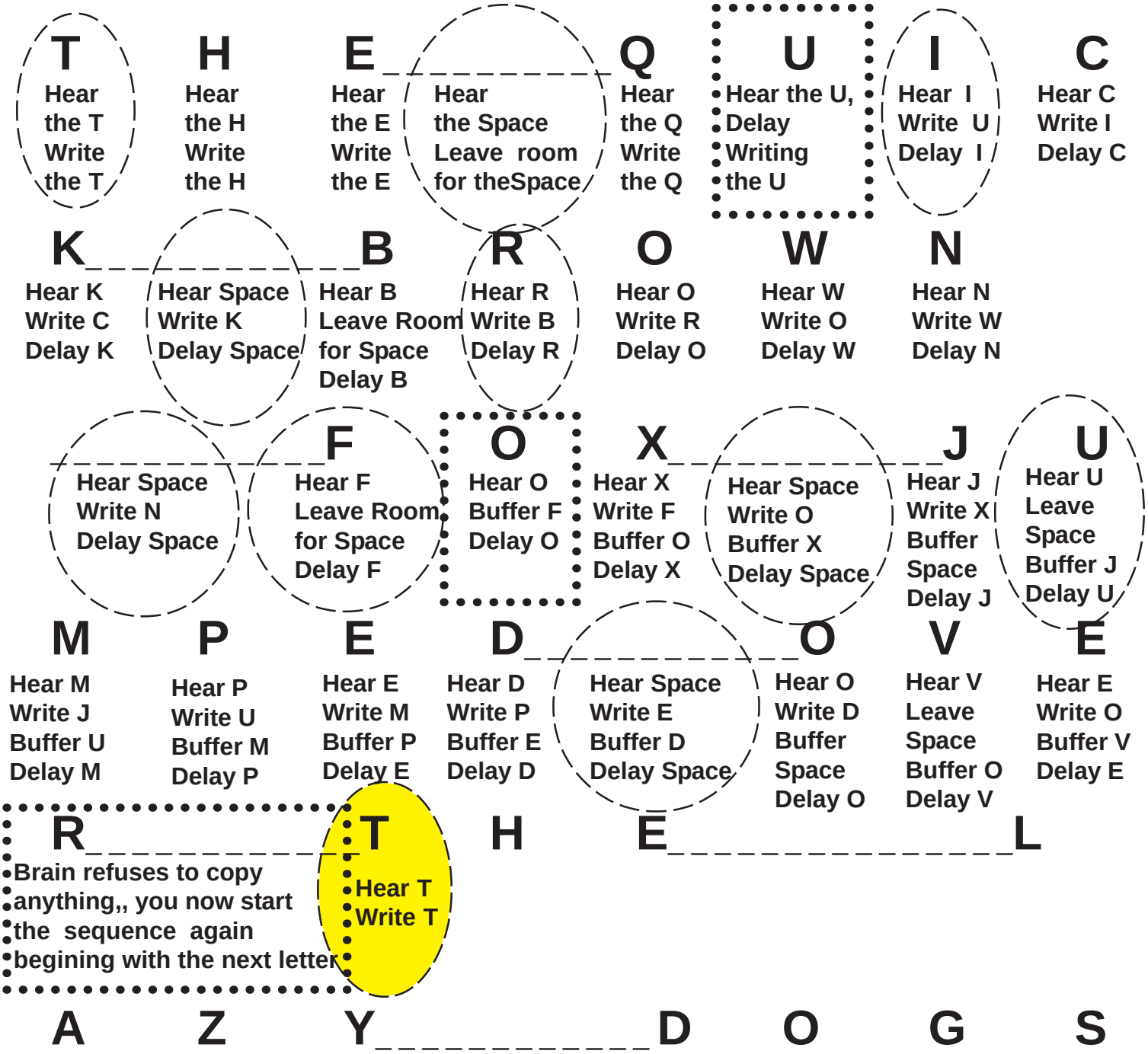

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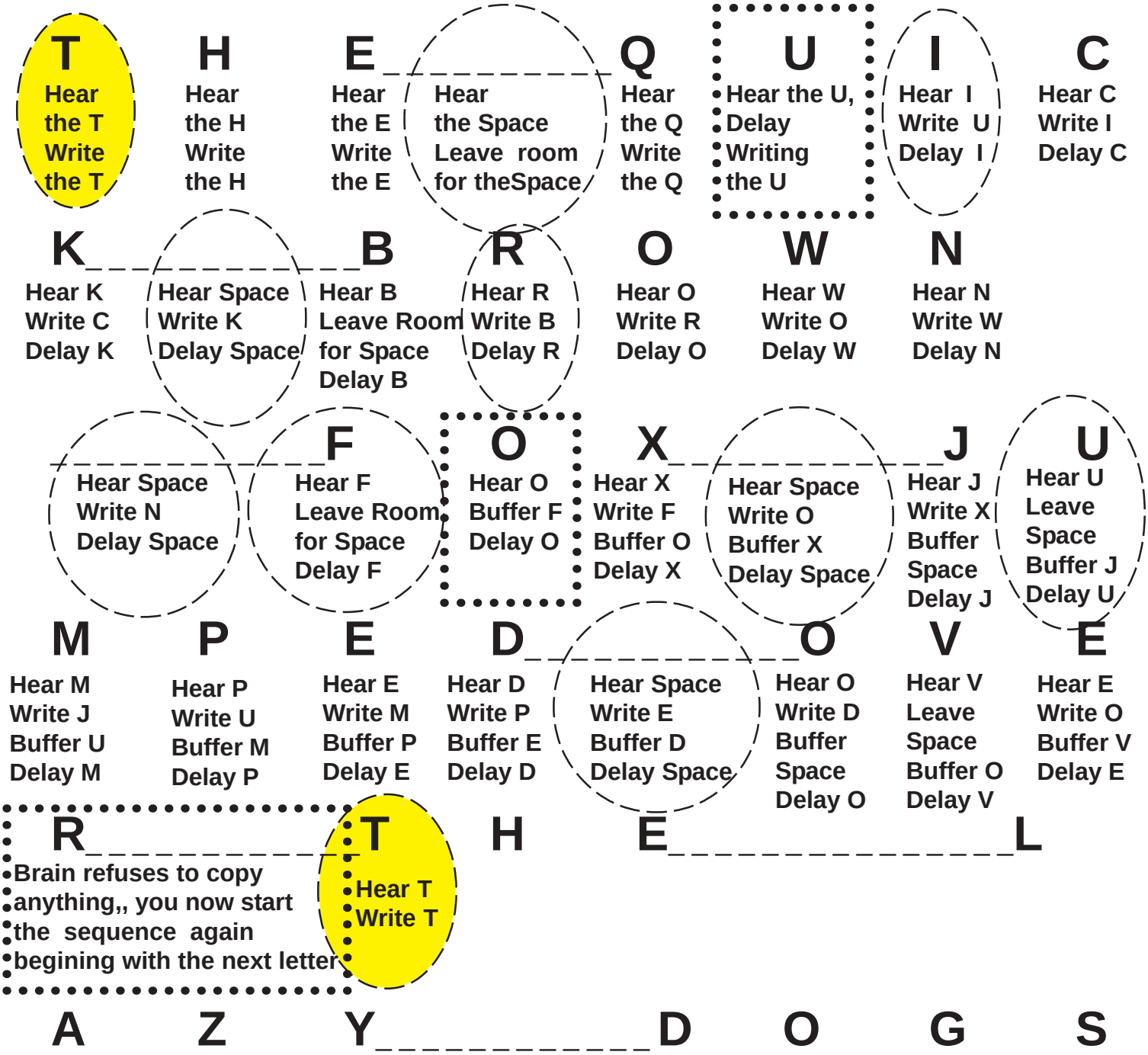

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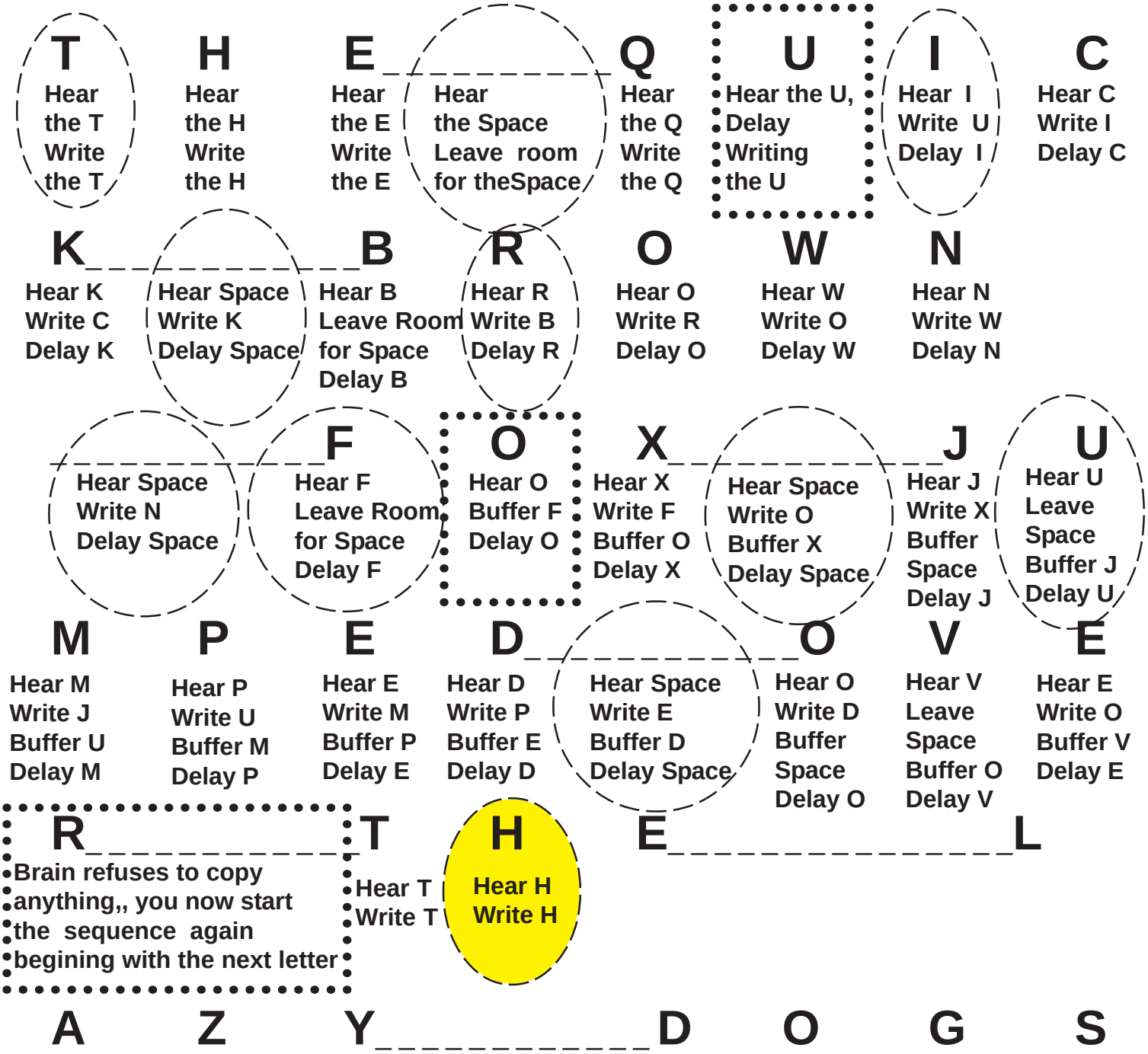

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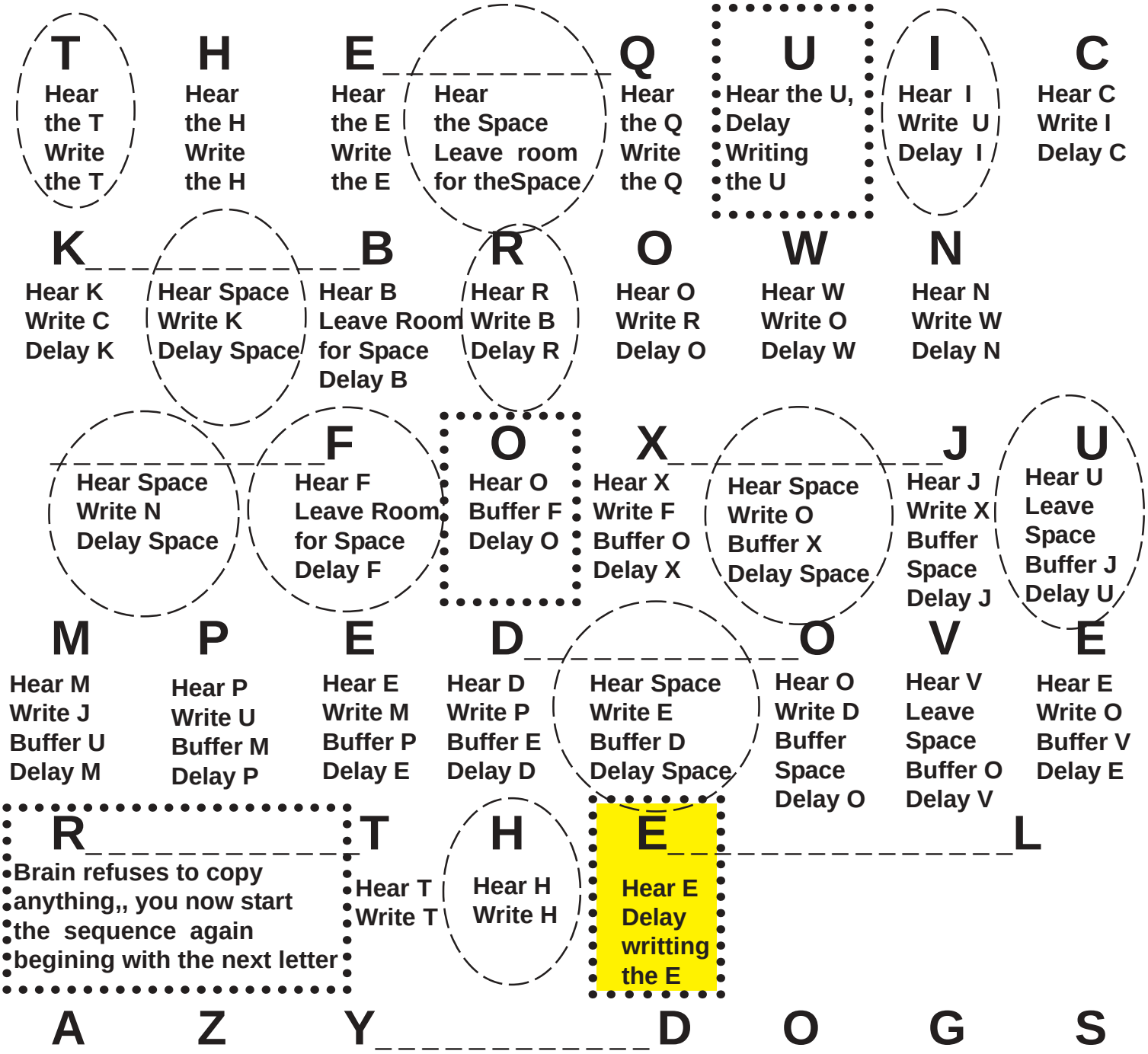

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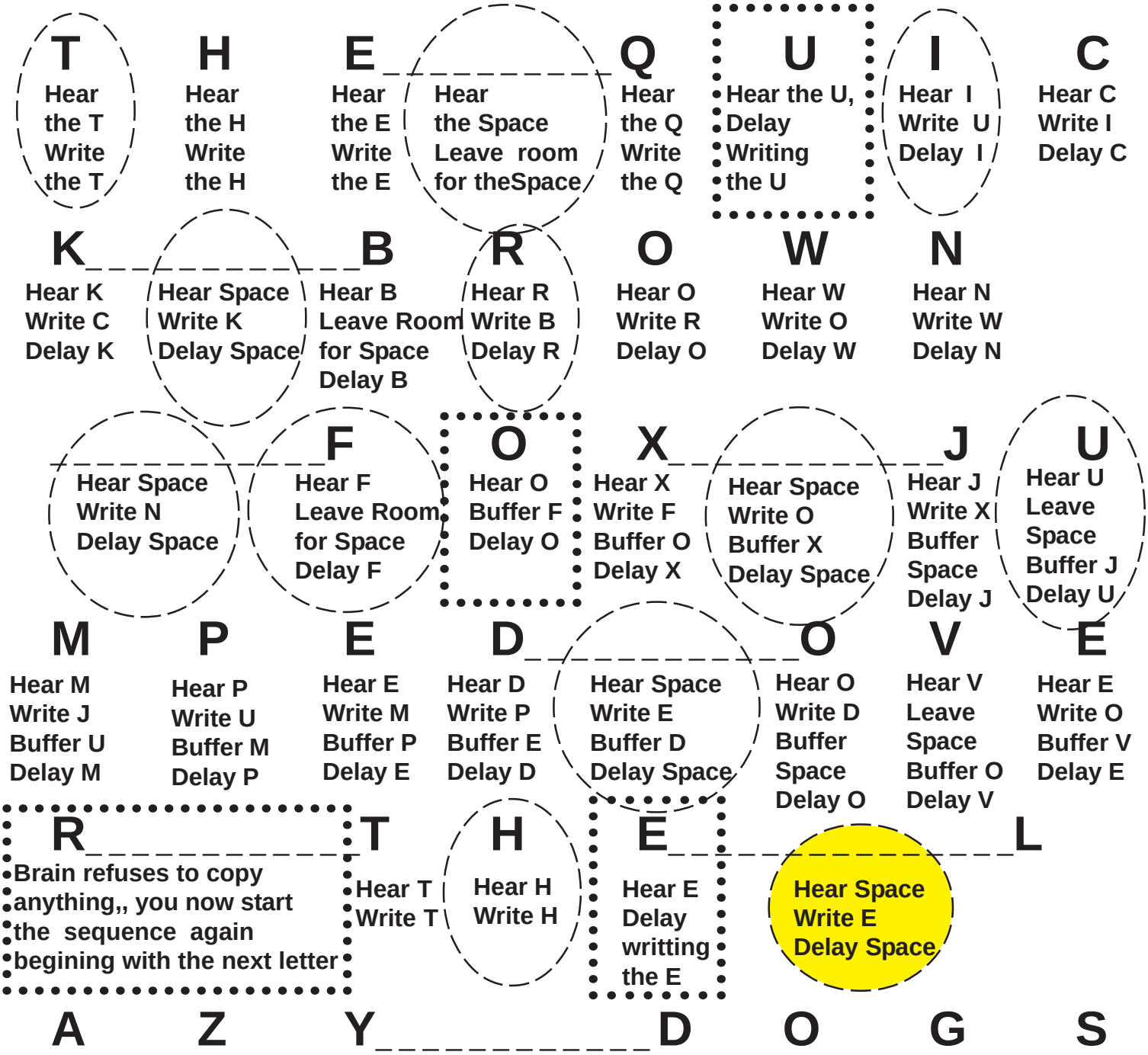

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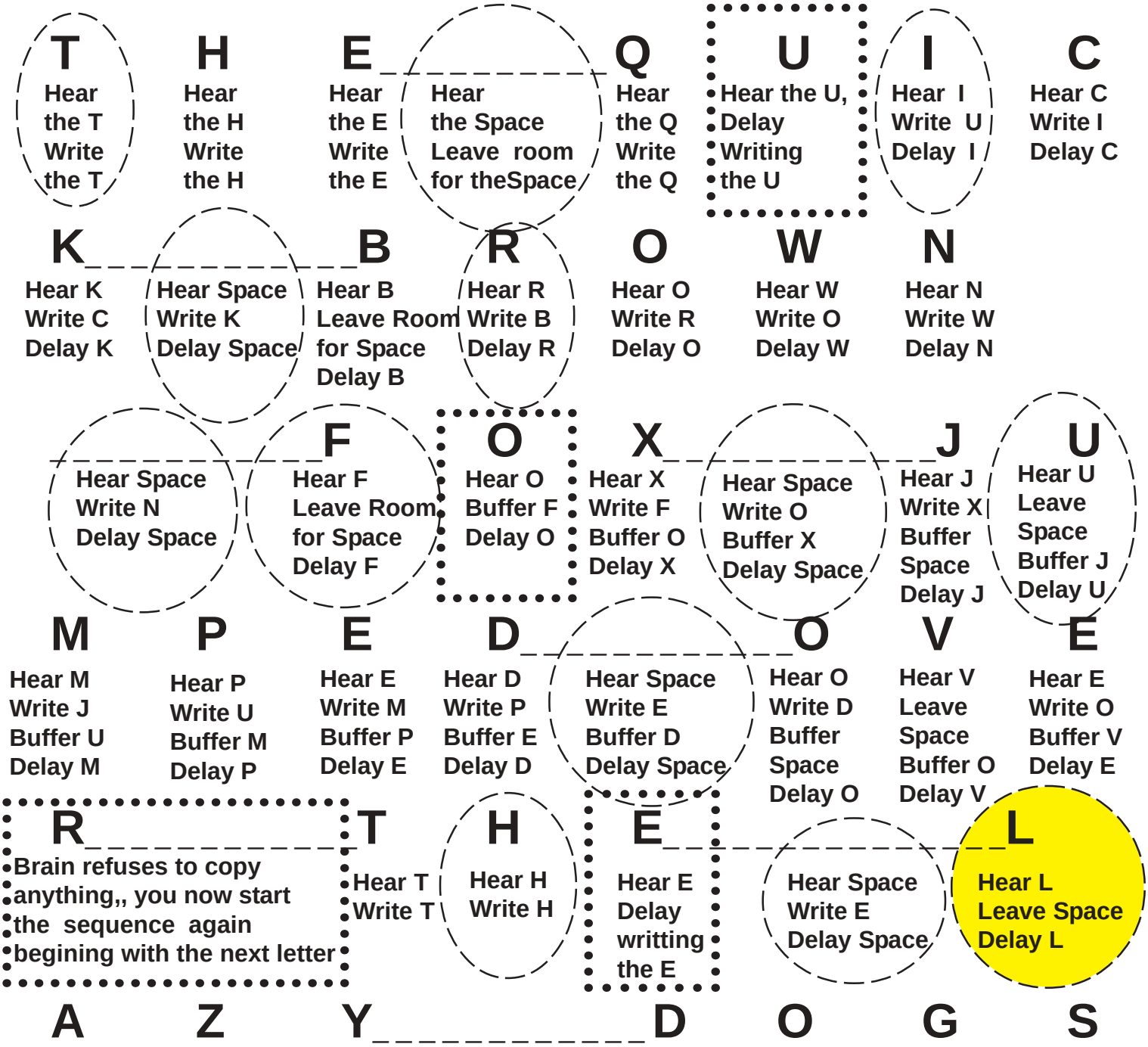

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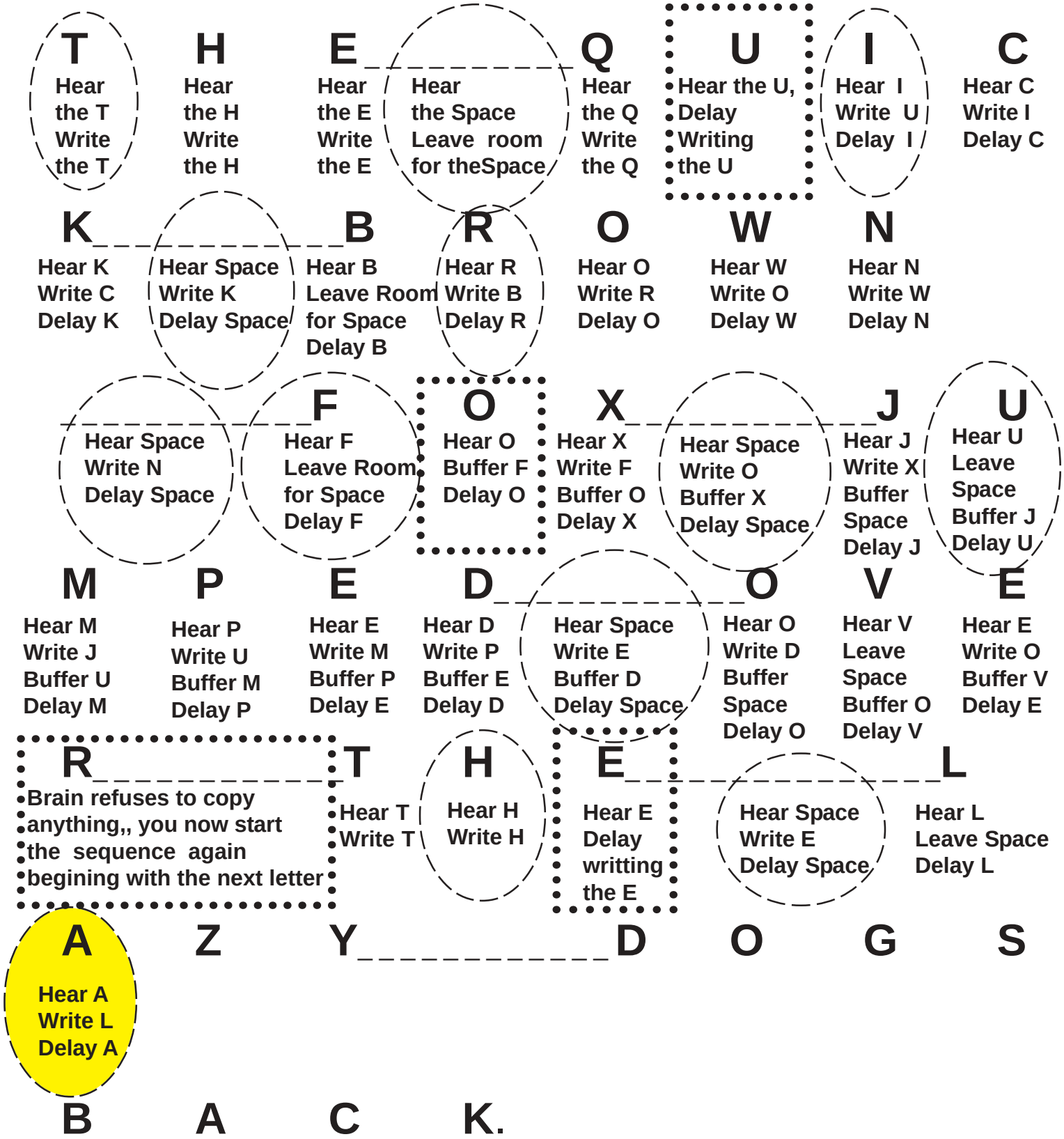

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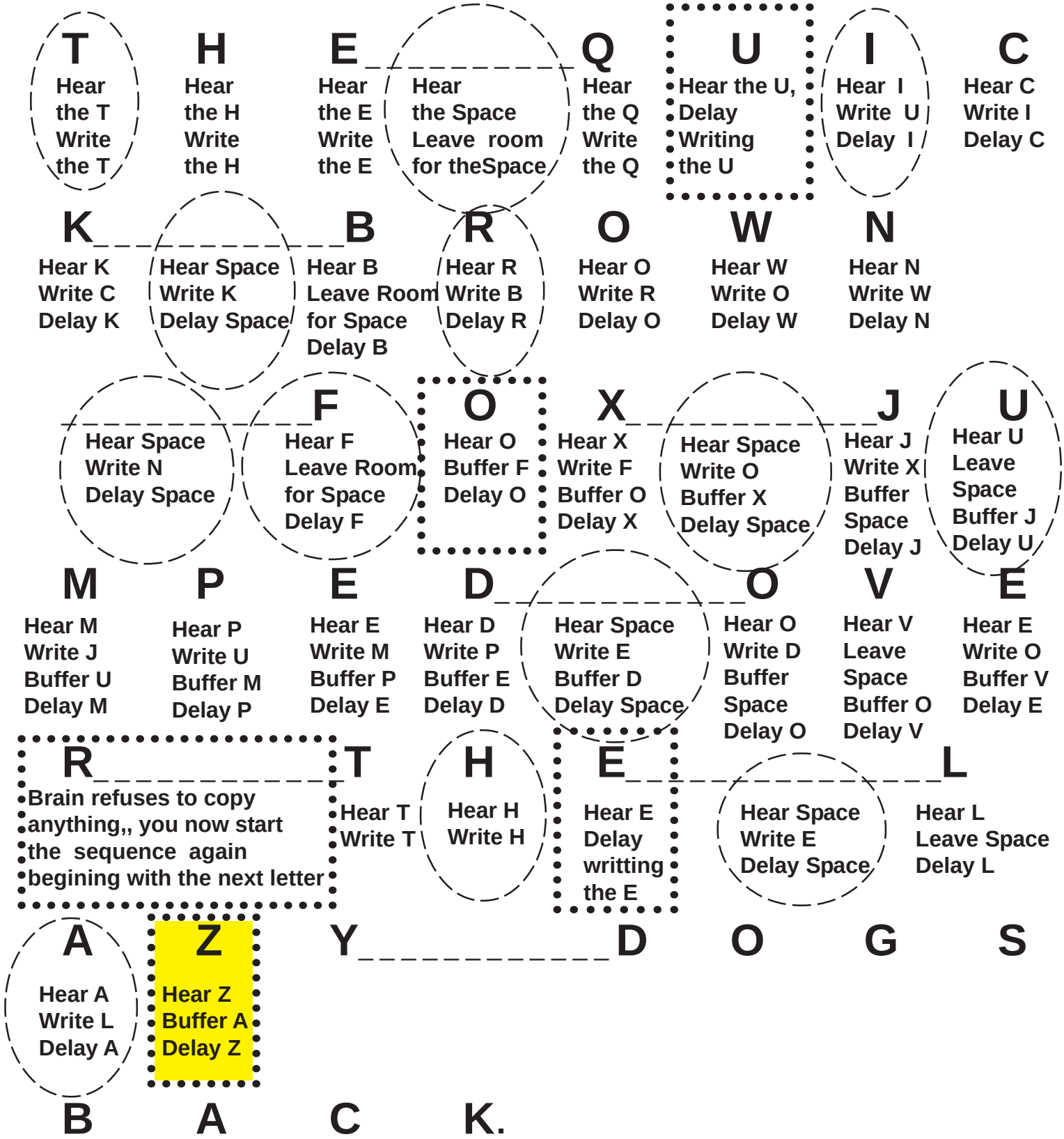

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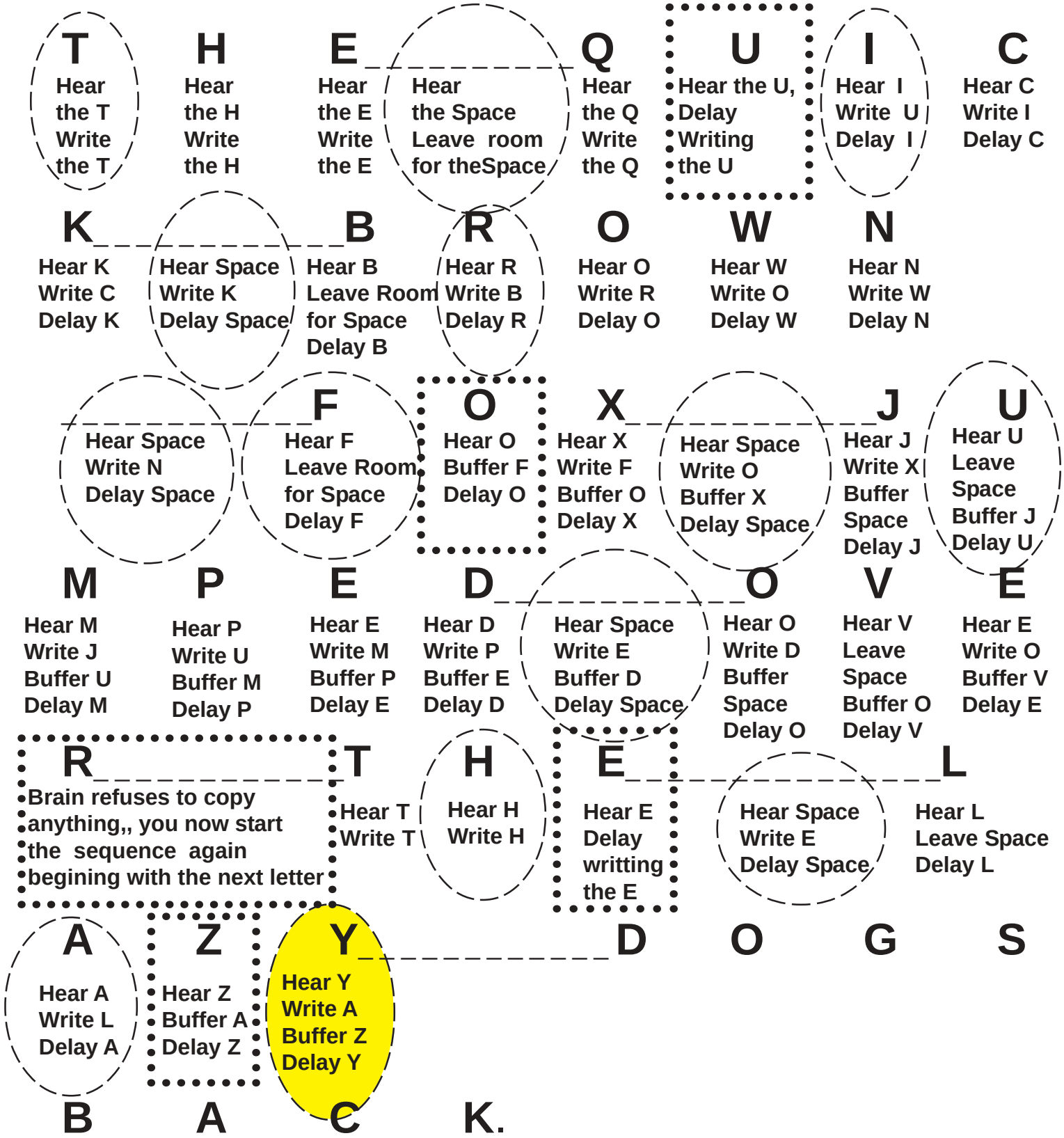

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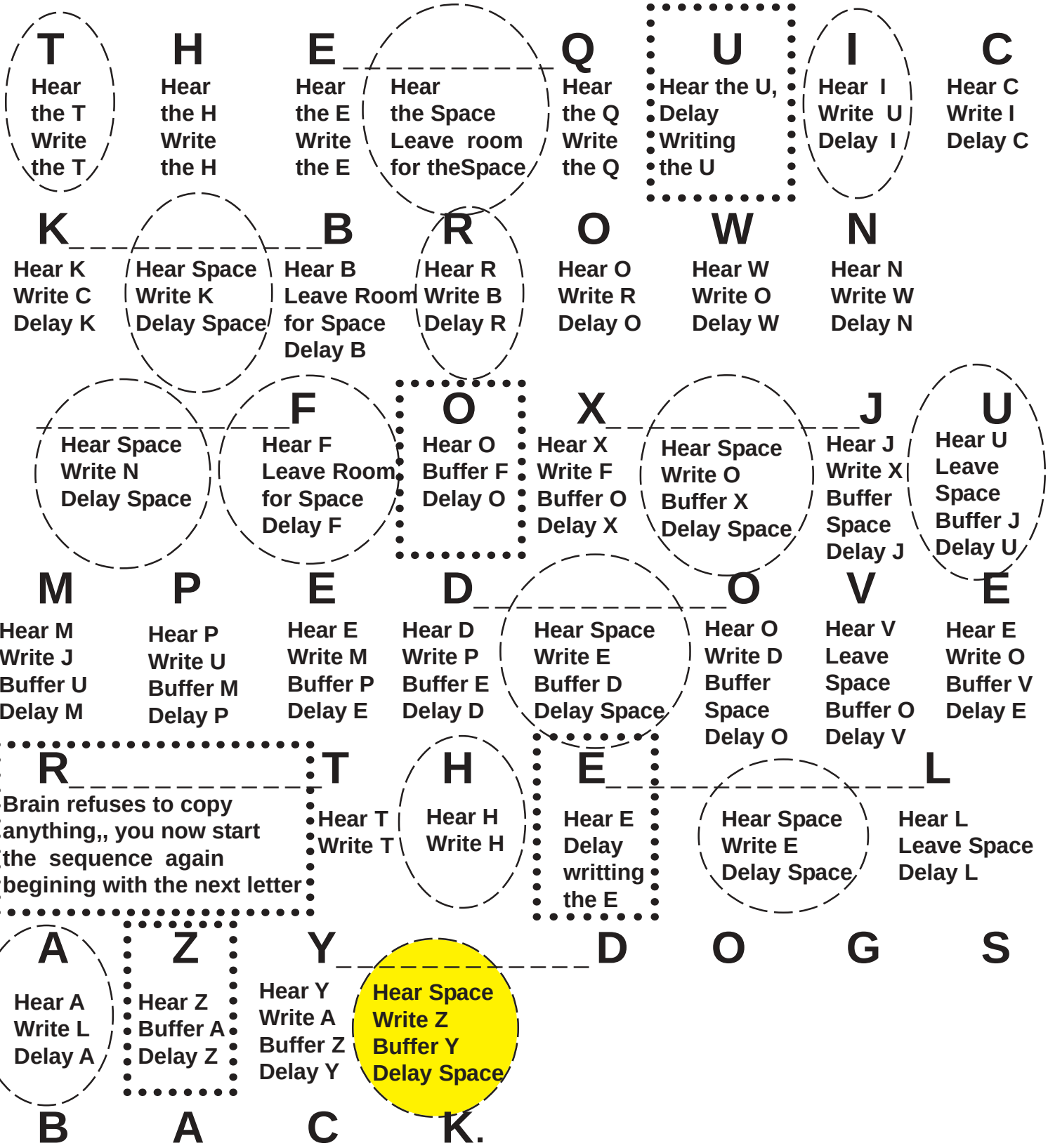

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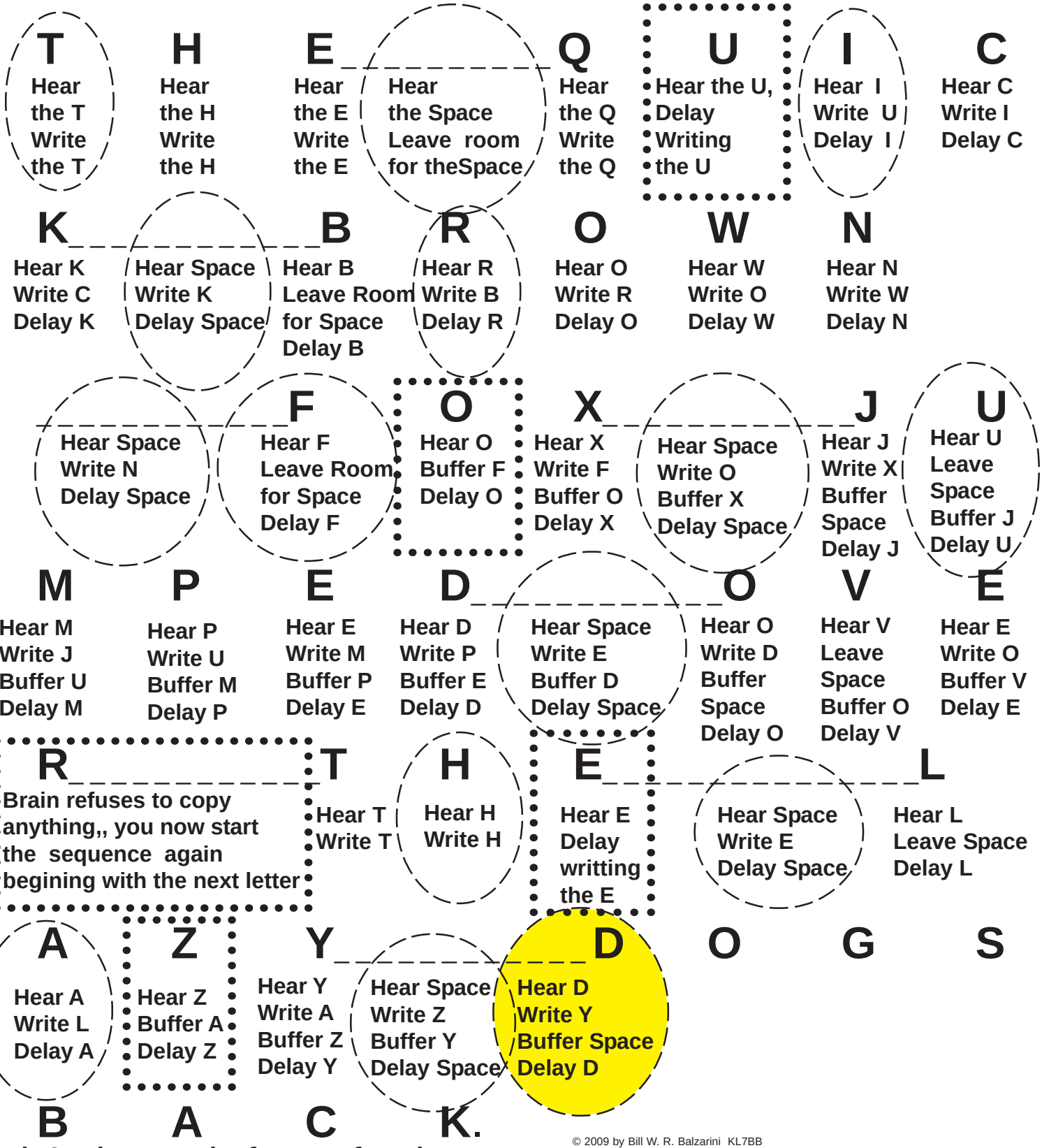

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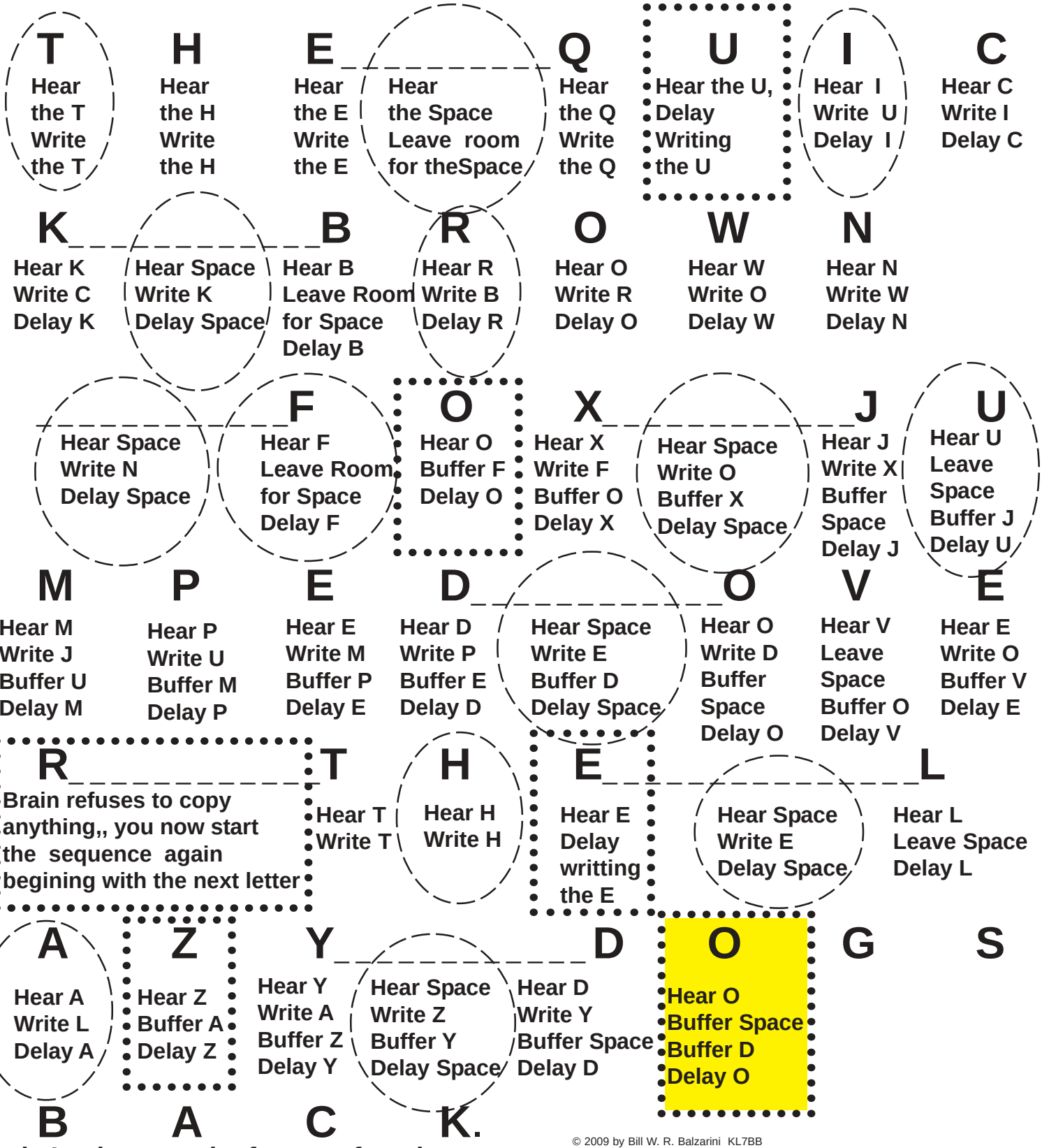

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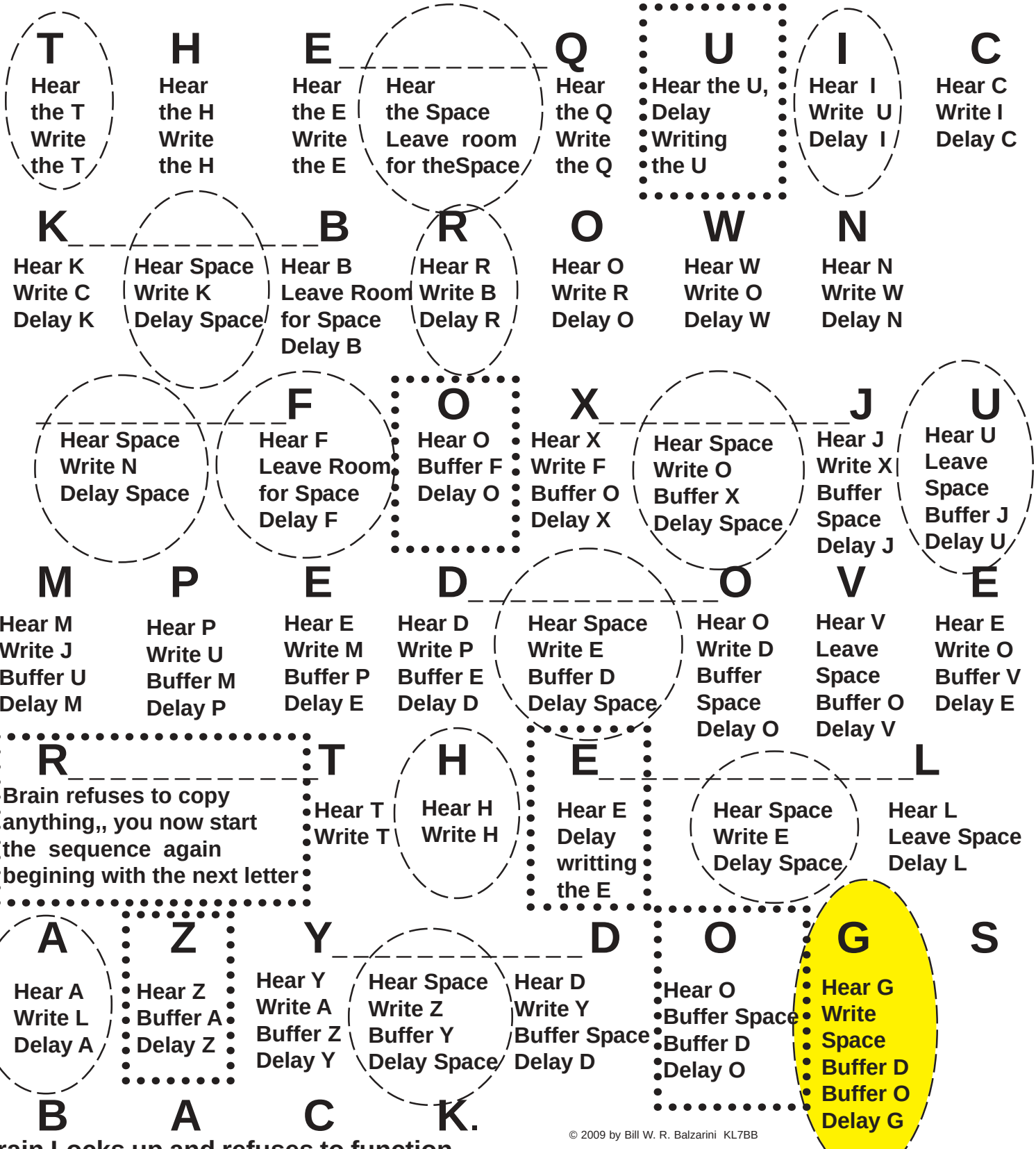

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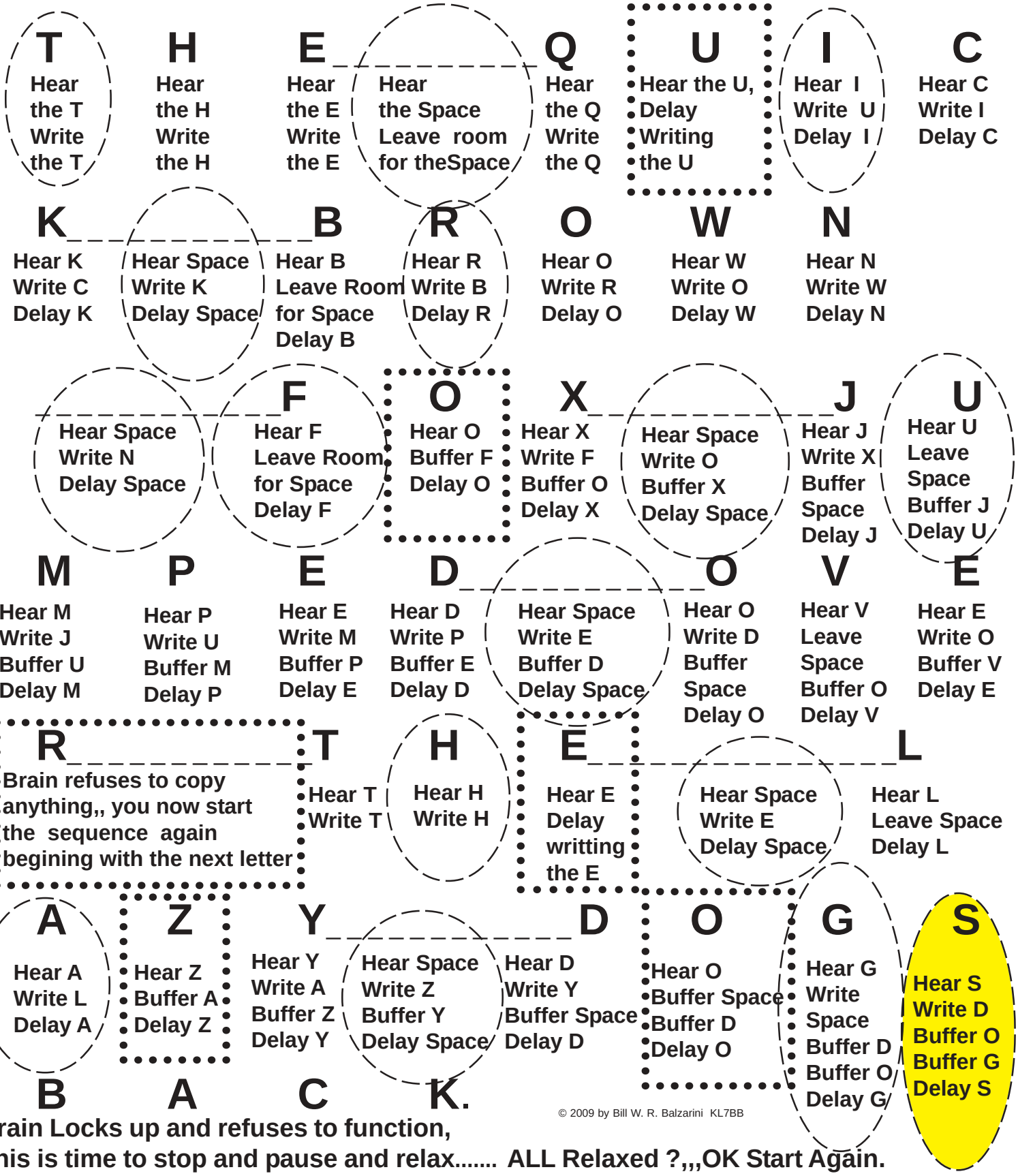

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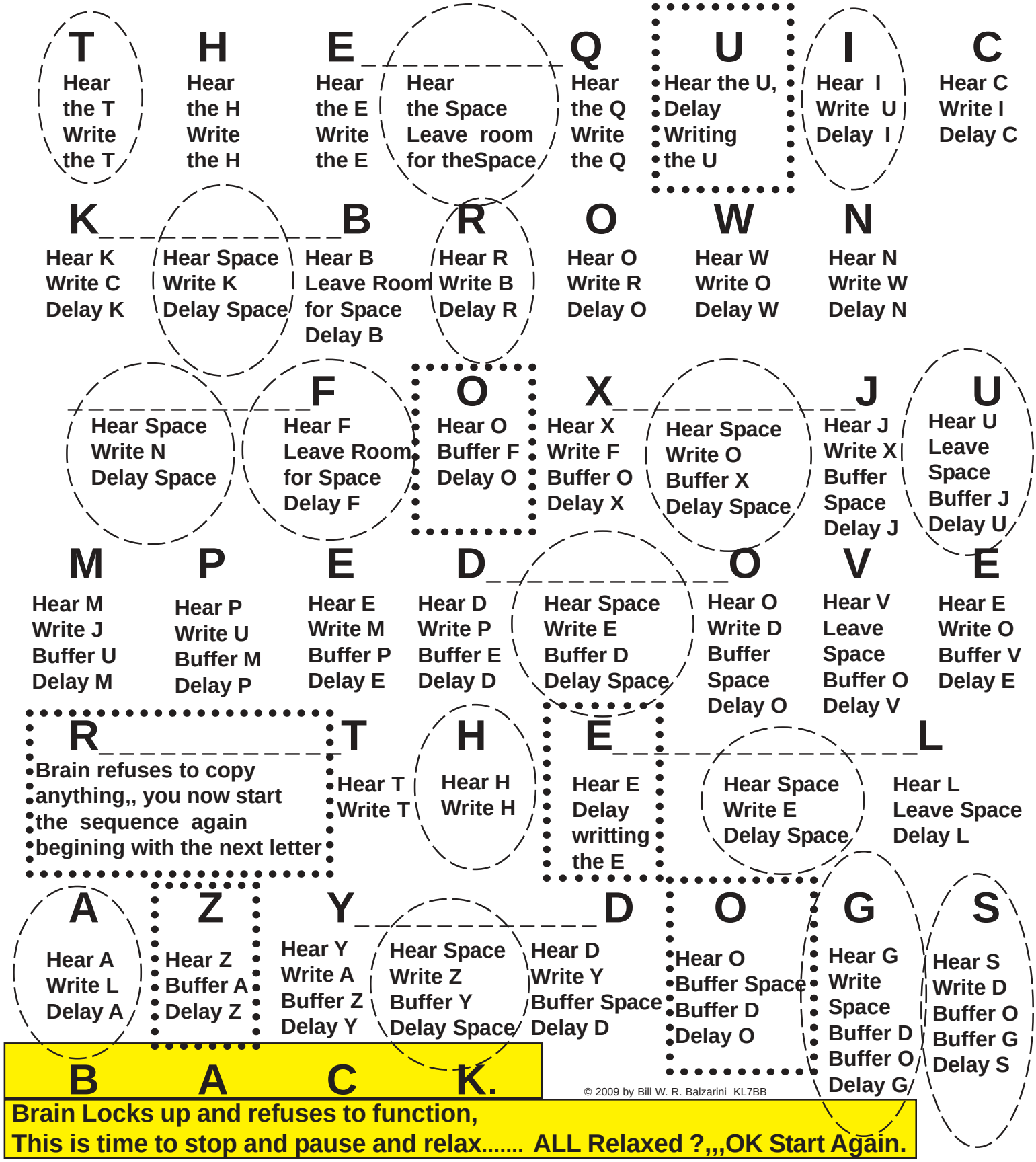

The Morse Code

©2009 **by Bill Balzarini KL7BB**

How to Listen Ahead, Write Behind, & Build a CW Buffer.

Writing Test. How fast do you Write?

- Take this writing test to see what your writing speed is.
  13 WPM = 65 Letters/Numbers
- Set a timer for a beep tone (Alarm) after one minute.
- Write as many full lines a-z 0-9 as you can.
- **abcdefghijklmnopqrstuvwxyz0123456789** (your lines will look like this one)
- Count the total characters and divide by 5.
- This is your current fast writing speed.

Hear it, Decode it, Buffer it, Print it. Copy Now, Read Later.

- **H**ere is how to learn to **copy** the code. When you are done writing the last character of the transmission, you will have to go back and read the message text to see what message was sent. How to copy and read at the same time will be covered at the end. (hint, lots of practice).
- **T**o copy, means you do not know the content of the message sent to you. All of your time and energy went into deciphering the code bits and getting them down on paper. Just like the real FCC / VE test.

Your One on One Speed

- Your **one on one** speed is the rate where you presently copy perfect code at **100%** accuracy.
- If your 100% copy speed is 8 words per minute, then your **one on one** speed is 8 words per minute.
- This **one on one** is the speed where you hear the Morse code, Decode the dits and dahs, Then write down the results just as fast as you can, without any delays.

Very Fast Code, What Can You Hear?

- Start at 100 Words Per Minute. (use a computer to send to you).
- Use code groups or words that are 5 characters long.
- Listen for the space between the groups/words
- Move the rate down to 75WPM. Try again
- Move the rate down to 50WPM. Try again
- Move the rate down to 25WPM. Everyone should be able to hear the **space** between the words at this speed.

Can You Hear the Short & Long Sounds?

- Listen to Morse Code tapes or a computer that will send code starting at 50 WPM.
- Have your code program send code groups that are the **same** or are **different**. Start by sending two long characters that are the same. **J** & **J**. Next send two that are different. **7** & **W**. Continue with a random pattern of "two same and two different." J J, A W, W W, J 7, 7 W, A A, B B, A R, D E, P K ,,,,

Assessment of Copy Skills

- You can hear the Morse Code characters ?
- You can tell if they are the same or different ?
- Your writing speed, will it let you put them down on paper fast enough to pass the FCC / VE code test ?
- All you need to do, is to properly decode them, and build a buffer.

The Code, the Ear, the Mind, the Eye Lookup Chart, the Hand & the Test.

- The code is always being received in the future, listen ahead for it.
- The Ear is your input device. exercise it daily by listening to code. (faster code)
- The mind is your Code Processing Unit (CPU). Here is where you build a buffer.
- With this method you can loose your eye lookup chart. The decoded info will go directly to your hand for printing.
- The Test. Practice testmanship. This method does not teach you how to get rid of test jitters. If you get nervous, practice taking tests,, just for the exposure of becoming less nervous when you take the real test.

The Details: Code Elements

- Good code copying communication comes from the Ear into the Mind and not from the Eye. (or from an additional round trip to the eye for extra look-up processing).
- The best type of Morse Code for CW practice has a fast letter rate (over 15wpm) with long spacing in between each letter, resulting in a end rate of 5WPM to start. (start with 5WPM even if you are going to study for a 20WPM Extra)
- Start with a slow speed to learn the patterns of the letters and numbers.
- The most important code element is the "longer space" between words.

The Details: Code Elements

- At slower speeds the “Dit” might seem like the easiest element to hear and recognize.
- Over 70 WPM a “Dit” can be difficult to hear. Somewhere over 90 WPM a “Dit” sound can take on a perception that it is just there,,,,,,,or was it ?
- In the beginning, "6" could sound like the word “THE”, at 100 WPM. (missing e)
- With really fast CW code, longer letters and numbers can be easier to learn. They take longer to send and you get more time to copy them.

The Details: The Eye

- This receiving device inputs and converts lightwaves into our minds (CPU).
- Did you first learn the Morse Code by reading it? I call this “Eye Input” into your mind.
- If you pressently hear Morse code in long and short sounds, & then have to stop and make a lookup comparison to a "code picture chart" in your mind, you are using a visual lookup chart. A Eye lookup chart is one element of the copying process that is not needed.
- The time that your mind uses for a visual lookup, should be redirected to *listening ahead* and writing behind.

The Details: The Ear

- Ears input and convert Sound Waves into our minds. You have to hear (listen) fast enough to recognize dits, dahs and spaces between letters and words.

- Concentrate on listening ahead with your ears. The ear supplies us with the leading edge of the next code sound. Use the sound as a signal to tell your hand to write down the previously heard code letter.
- This is your output writing device. Your mind outputs commands to your Hand-Printer. Hopefully your writing speed is near or faster than the desired final code copying speed (13 to 20 WPM).
- To write faster, try limbering exercises and even soaking in warm water. This can help your hands loosen up.

The Details: The Mind

- The mind takes data from the ears and decodes it. Next it compares the results with what is stored in memory as a picture version of the Morse code.(Eye Lookup chart) The eye lookup chart compares the dits and dahs from our ear for a matching combination.
- When a match is found it is forwarded to your hand output (printing) device.
- You write down the letter or number. This becomes a Ear to Eye to Hand conversion process for copying the Morse code. (also very slow because so much time is used by the mind to find the Eye Look-up Chart and make a match)

The Details: The Trained Mind

- What follows are the details on how to copy the code by changing the copy process to have your hand respond directly to the code sounds at our ears and thereby eliminating the eye lookup chart. (with all the extra time available (no eye look-up chart) you can copy faster speeds).

This is What To Do.

- **C**ause your mind to do something extra. (yes this like work, only fun work).
- **D**elay the writing of the just processed letter, until your ear hears the starting edge of the next letter. When the next starting sound occures, let the motor part of your mind tell your hand to write the letter down on paper. (extra delays will build a buffer,,, 1 letter delay = 1 letter buffer,,, 2 letter delay = 2 letter buffer).
- **A**t the same time you will also need to continue to listen ahead to hear and decode the new incoming code information.

Key Benefits of Practice.

- **Practice** every day. Start slow and increase your speed.
- When you reach your one on one speed keep increasing to a higher level. Just look at the number of characters copied correctly.
  25% right is a very positive view of your good progress,,,,.
- Increase the speed until you are at two times faster than your <u>one on one</u> speed. This will limber up your listening ability so that you can hear faster code. The payoff comes the very next time that you start your next practice session.
  <u>You will hear faster</u> and this will give you more time to get all of the decoding and buffering tasks working faster also.

Next Steps

- **Practice.** • **P**ractice on Saturday, & Sunday, **T**ake Monday off.
- **P**ractice on Tuesday, Wednesday, Thursday, **T**ake Friday off. (**R**epeat practice)
- Arrange to take your real test, Go Live on the Air! 73 de Bill KL7BB@Yahoo.com

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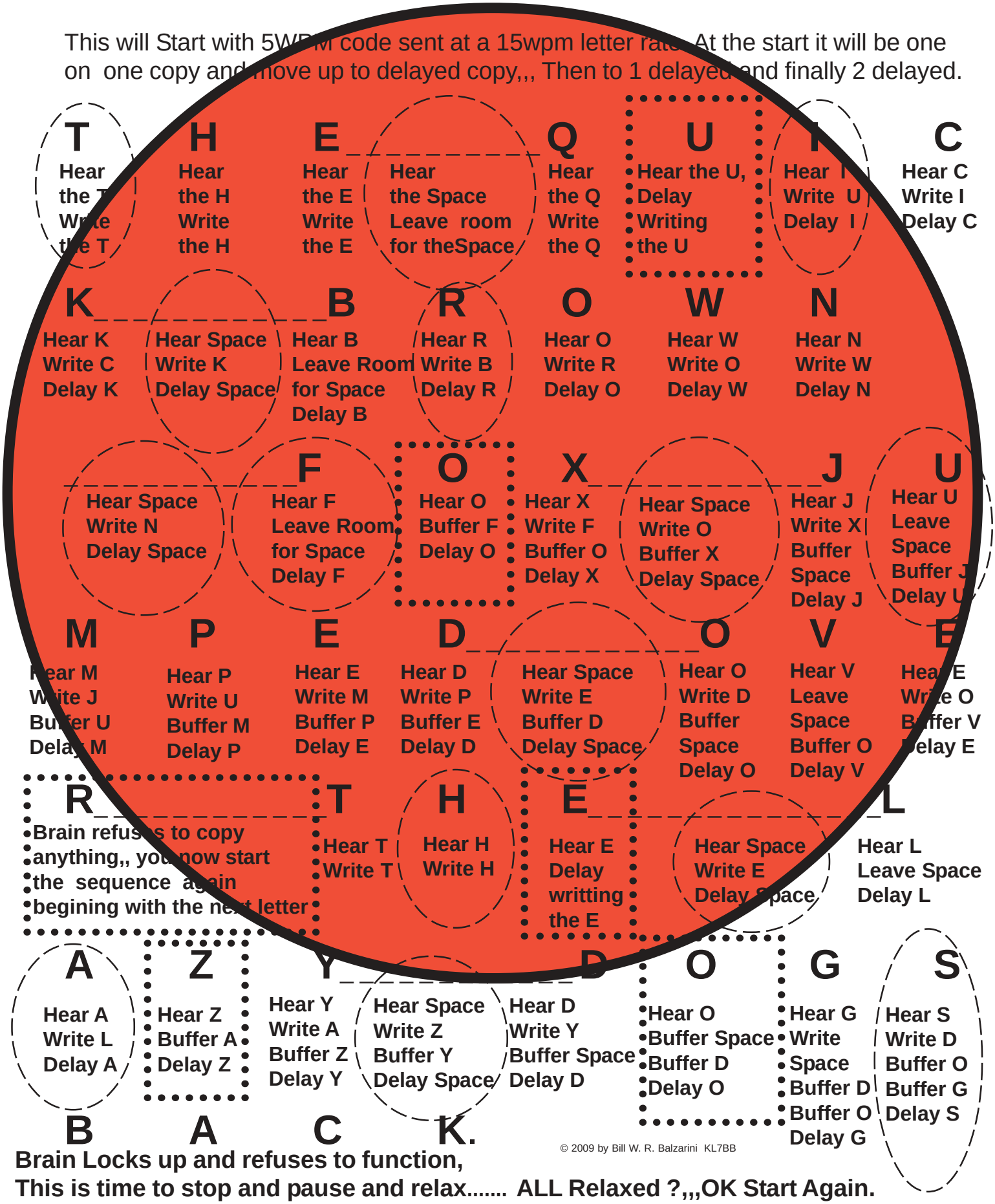

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ORIGINAL DIGITIAL

Dits, Dahs, Spaces and Your Brain

By Bill Balzarini KL7BB

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