

Hi everyone, thank you so much for coming to Puzzle Day. Although there were some hiccups, we hope you at least had fun trying to solve them. This year a lot of things were new. We had record(!) attendance for puzzle day (163 RSVPs), new sponsors, a bigger prize/merch/food budget than in previous years, professional photographers, and it was the first time we tried hosting our puzzles on a website instead of printing them. Yay!

We are always trying to improve and expand Puzzle Day. We are sending out a feedback form soon, and we fully intend to iron out any issues for next year. If you liked solving the puzzles and think you can make better ones, or even if you want to help with web development for your resume, we would love to have you on the puzzle committee next year (even if you're not a member of CSWN).

Puzzle website: cswnpuzzleday.org

(answers are in red)

That Depends Pt. 1

Answer the crossword-style clues to answer the dropquote. The colors are a red herring on the first part of the puzzle; the first letter of each clue spells out "TARDY LAGOMORPH", so the first puzzle answer is WHITE RABBIT. In the flavor text the phrase "IGNORE COLORS" is hidden in the first letter of each sentence. The theme of the text, which consists of exact quotes from the books, is choices. Also a hint that part 2 is directly pulled from the text (if they come up with CAT though that's pretty obvious). The dropquote answer is also a direct quote from Alice in Wonderland.

T	E	R	E	N	C	E
---	---	---	---	---	---	---

ANCIENT COMIC OR MODERN MATH GENIUS

A	E	R	O	B	I	C
---	---	---	---	---	---	---

OF BREATHING OR EXERCISE

R	A	P	H	A	E	L
---	---	---	---	---	---	---

OF THE SCHOOL OF ATHENS OR NINJA TURTLES

D	A	D	A	I	S	T
---	---	---	---	---	---	---

DUCHAMP OR ARP

Y	U	P	P	I	E	S
---	---	---	---	---	---	---

AMERICAN PSYCHO CHARACTERS OR
YOUNG PROFESSIONALS

L	E	O	N	A	R	D
---	---	---	---	---	---	---

FAMOUS FOR SPOCK OR A BLUE RAINCOAT

A	B	R	I	D	G	E
---	---	---	---	---	---	---

CENSOR OR CLARIFY

G	A	L	L	O	W	S
---	---	---	---	---	---	---

TYPE OF GRIM HUMOR OR WOODEN STRUCTURE

O	R	C	H	A	R	D
---	---	---	---	---	---	---

SOURCE OF APPLES OR CHERRIES, FOR CHEKOV

M A R T I A N

DAMON OR ALIEN

O R L E A N S

PRODUCED JOAN OF ARC, OR MORE RECENTLY DJ KHALED

R A I D E R S

OF LAS VEGAS OR LOST ARK

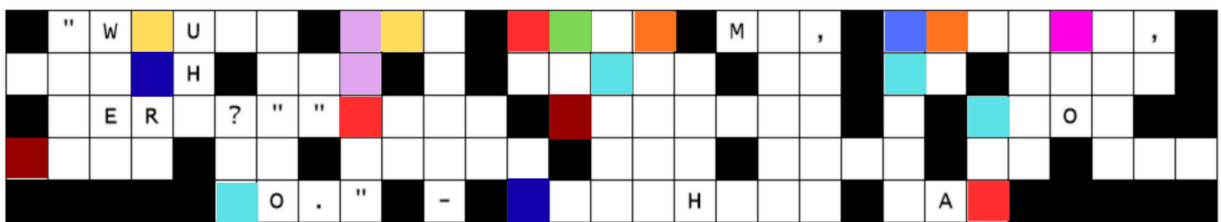
P A N D O R A

CURIOUS WOMAN OR CHARM BRACELET

H O L L A N D

SPIDERMAN OR NICOLE KIDMAN FILM
(sorry for choosing a terrible nicole kidman movie)

That Depends Pt. 2



“Would you tell me, please, which way I ought to go from here?”

“That depends a good deal on where you want to get to.” - Cheshire Cat
Mistake: the last teal should have been red.

Eat Me, Drink Me

1. You realize that the nine moments are associated with the nine times in the book/movie where Alice eats or drinks something and grows/shrinks accordingly.
2. After you find those and figure out you can associate them with binary encoding 0s and 1s: 0 with shrink and 1 with grow.
3. After you do that, you put together the nine bit binary string to make the integer.

SGG SSG SSS

“DRINK ME” bottle in the hall — shrink

“EAT ME” cake under the table — grow

Unlabeled bottle in the Rabbit’s house — grow

Pebble-cake in the Rabbit’s house — shrink

Mushroom, first bite — shrink

Mushroom, second bite — grow

Mushroom, later adjusting size back down — shrink

Mushroom, before approaching the little house — shrink

Mushroom, before entering the garden — shrink

0 corresponds to shrink

1 corresponds to grow

011001000 binary code => 200 in decimal

Look Up

Look Down

The second part of the puzzle asks for the friend's latitude and longitude. The spiral is an edited version of what Alice said as she fell down the rabbit hole. Looking at the 28th word in the spiral, you just see "the". However, if you look up and down and towards the "center" (hinted by the text), you see the phrase "check the PUSH center". The latitude and longitude on google maps is 40.430624372748596, -86.91604007405677. The formatting tells you to truncate decimals.

Topsy Turvy Topiary

In the infinite chessboard in Wonderland, you are employed as a head gardener of a 7x7 garden. Even though you are technically at war with some of your neighbors, it is your job to ensure that the hedges and flowerbeds all look color-coordinated. You work for the red queen, and your neighbors work for the white king. To avoid direct communication, you slip each other notes with your cryptic plans over the hedges, when no one is looking. Today, your neighbors have an extra-special pattern in mind, but what could it be?

$$18=1, 15=2, 25=3, 7=4, 2=5, 9=6, 22=7$$

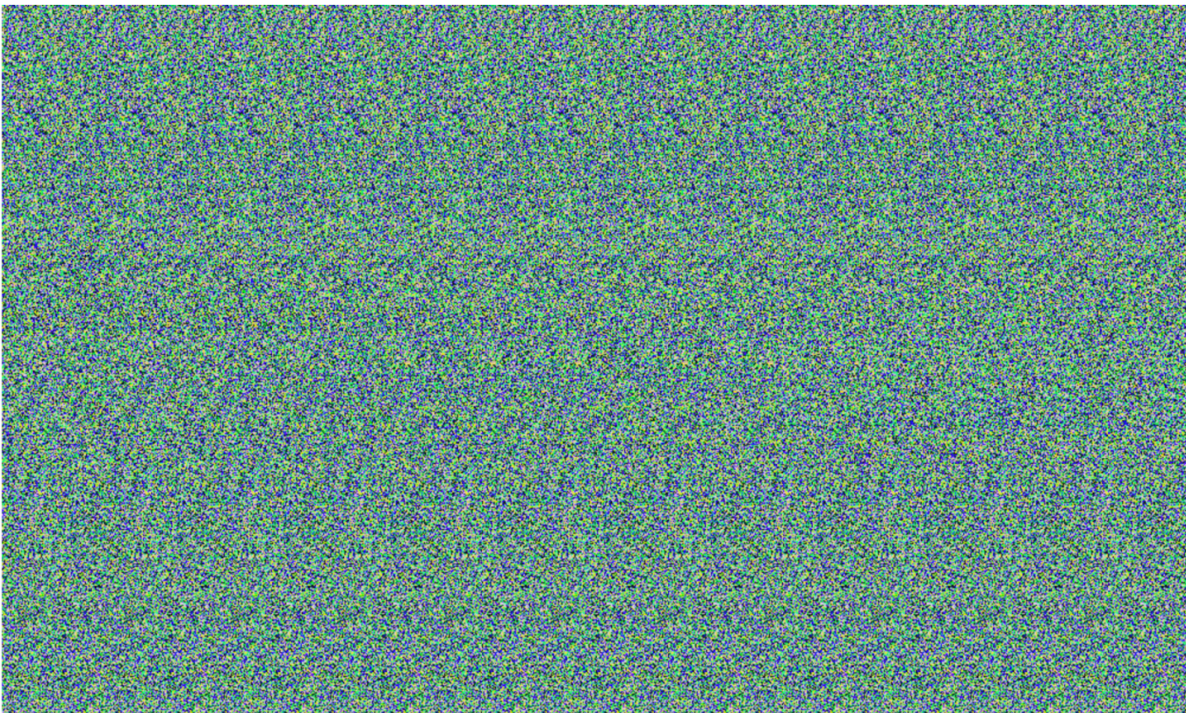
I7	H1	A2	I3	G7	D4	J1	A7	F2	E1	L3	A3	G4	L7
B4	J4	J6	A5	A1	N5	K1	B3	J5	H4	K5	L1	I4	G6
B7	K3	K6	F3	M6	D2	N3	D1	B6	I2	J3	M7	N6	C4
I1	N7	M5	B1	E4	H2	H7	D5	H6	D7	G2	C1	G1	G5
D3	I6	E6	E2	G3	B5	I5	K2	F4	A4	B2	E7	H3	F1
C2	L5	A6	C6	C7	F6	L6	E5	K7	C3	D6	F5		N1
N4	M2	H5	J7	J2	M4	F7	E3	M3	C5	M1	L2	L4	K4

The input is two 7x7 KenKen puzzles with grid coordinates, a strange set of equalities (18=1, etc) which encode the colors ROYGBIV as numbers from 1-7, and another 14x7

grid that has a bunch of random grid coordinates in it. Use the solutions of the KenKen puzzles to enter the colors in the grid coordinates and reveal the design. Any online solver will give you the solution to the kenken, so we omit them here. The solution is 10 6 (in the final judging we also accepted 106, 10/6, 10 shillings 6 pence and other similar answers).

Potion

You are curious and one day decide to drink the same potion that Alice drank. When you wake up, your sense of direction and description is messed up. Your sense of the world is with a picture and a phrase:



abbbb abbab abbaa aaaaa baaba aabba babaa babaa baaaa aabba

Stereogram reveals BACON

Cipher is a BACON cipher -> reveals qonatgwwrg

Reverse this word to get grwwgtanoq

Then, put it into a Viginere cipher (REVERSE) with BACON as the decoder -> fruit salad

Law and Disorder

The code:

```
1001 10001 10001 00100 000 1010 1100 0011 1111 1100
11110 0011 1010 000 0101 11100100 1001 1111 1001
11110 1101 10001 000 11100100 1101 1110100 11100100
0101 10001 000 1001 1110111 000 0101 11100100 000
10000 0011 1011 1010 0101
```

For this puzzle, you must answer a set of riddles in Latin (from the riddles of Aldhelm and others). The highlighted letters from each riddle answer will spell out “HUFFMAN”. You should use the riddles from the book to get a Huffman encoding (keeping newlines and punctuation within each riddle, excluding the newlines between each riddle and the line of underscores beneath each riddle). The twist is that even if you google the riddle answers, the answers won’t match up unless you translate from english to pig latin (see pages in governance). Once you solve the code with the Huffman encoding, you will then need to translate from pig latin back to english. The code translates to “all persons more than a mile high to leave the court”, which is Rule 42. You could also just guess this by reading the actual book. This is the website we used for the Huffman encoding:

<https://huffman-coding-online.vercel.app/>

Alice in IKEA

Answer: GRYPHON

These are doublet puzzles, invented by Lewis Carroll. You transform one word into another word of the same length by changing one letter at a time, such that every intermediate word is also a real word. The first two instructions tell you how to interpret the puzzles; “mind the gaps” tells you to look at the difference between each of the changed letters. The difference will give the alphabetic order of a character in the phrase. If the difference is negative, then you “loop” back around in a circle (e.g., a difference of

-1 gives you 25). Not all the transformations are used, though; only the first transformation or first two transformations are used.

For steps 3-7, look at the words that have the same length. The answer is in step 11. The first rung (transformation) that is used is G. Take the difference of the letters.

PIG to STY

Step 1: PIG → WIG

Change: P (16) to W (23)

Calculation: $23-16=7$ (G)

Step 2: WIG → WAG

Change: I (9) to A (1)

$1-9=-8 \rightarrow 18$ (R)

BREAD to TOAST

Step 1: BREAD → TREAD

Change: B (2) to T (20)

Calculation: $20-2=18$ (R)

Step 2: TREAD → TREAT

Change: D (4) to T (20)

$20-4=16$ (P)

TEA to HOT

Step 1: TEA → SEA

Change: T (20) to S (19)

$19-20=-1 \rightarrow 25$ (Y)

Step 2: SEA → SET

Change: A (1) to T (20)

$20-1=19$ (S)

HEAD to TAIL

Step 1: HEAD → HEAL

Change: D (4) to L (12)

$12-4=8$ (H)

Step 2: HEAL → TEAL

H (8) to T (20)
 $20 - 8 = 12$ (L)

VALE to HAVE

Step 1: VALE \rightarrow GALE (V \rightarrow G) (15, O)

Step 2: GALE \rightarrow GATE (L \rightarrow T) ($-8 + 26 = 18$, R)

HATE (G \rightarrow H)

HAVE (T \rightarrow V)

PALE to BULL

Step 1: PALE \rightarrow BALE

(P \rightarrow B) $16 - 2 = 14$ (N)

Step 2: BALL (E \rightarrow L)

BULL (A \rightarrow U)

Discarding some of the second letters from these calculations should give you GRYPHON. The last step, “throw the whole thing away and ask your friend to fly you up instead” hints at the Gryphon, who is Alice’s friend in the book.

Mad Hatter’s Watch

After Alice had learned to tell time, she was quite excited for her next journey down the rabbit hole. On her next visit to the Mad Hatter, she looked at his watch face, but was surprised to find that it had letters on it.

“How funny, I’ve never seen a watch look like this!” she exclaimed. “But how am I supposed to tell the time?”

“I’m not sure, since I’m I’m only a hatter”, was the reply, leaving Alice to figure it out.

Answer: six pm

- a) Look at the lowercase letters
- b) Look at the minute hand

- c) If you are stuck on “TEA TIME”, notice that there is a specific time in Alice in Wonderland that tea time occurs

Since the Mad Hatter gives his response in lowercase letters, this is a hint to look at the lowercase letters of the clock. They should spell out: “trust the minute hand alone hour hand leads astray”. After looking at the letters pointed to by the minute hands, they spell out BED TIME. But the message in lowercase letters is a red herring, and they should look at the hour hand, which spells out TEA TIME. Tea Time in Alice in Wonderland is six pm.

Double Doors 1:

Room 1

Since the sign on the door of the room containing the keys is true, the keys can't be in room 2. If they are in room 3, then all the signs are true, which is a contradiction. The keys must be in room 1

Double Doors 2:

Room 2

Suppose the top sign, this room contains a tiger, was on the door of room 1. if the keys are in the room , the sign is false, violating the conditions given by the knight. If a tiger is in the room, the sign is true, which again violates the conditions. So that sign can't be on the first door; it must be on the second. This means the other sign is to be put on the first door. The sign belonging to the first door thus reads “both rooms contain tigers”. so the first room can't contain keys, or the sign would be true, which would mean that both rooms contain tigers — a contradiction. Therefore, the first room contains a tiger, the second room is false, and contains keys.

A Convoluted Case

The answer to this BS puzzle is HAT. If you compare the locations to the character names, you will notice they are the same length. The letters that do not match form the

answer to the bolded clue, excluding one letter: “H” for the Cheshire Cat, “A” for Tweedledum, and “T” for the Dormouse.

Clue answers: duck with two functions → douse (two ways to write “function”, and duck can be a synonym for douse); Seinfeld character → Eric (the) Clown; the lads who collect garbage → implies UK word, dustmen.

Why does the Hatter have half a guinea? (that is the same amount as 10/6 shilling/pence, which is the price tag/paper thing on his hat). Compare the character names and cities. Notice the “Parklife” lyrics from Tweedledum. Be as literal as possible with the first clue. The answer is also solvable from the book/movie and guessing.

Mock Logic

You are at a tea party debating with the Mad Hatter. He tells you some things he believes are true, and none of them make much sense. Is he just ragebaiting you or is there a hidden message in his conclusions about the world?

These are syllogism puzzles, for which Lewis Carroll (a.k.a. Charles Dodgson, a mathematician who specialized in logic), was known for. The capitalized words represent the different variables in the implications. Traditionally, these are collapsed to one letter in symbolic logic– the capitalized letters of the underlined words hint how to do this.

The solution to the first one is Manage restaurant implies not Orangutan (anyone who can manage a restaurant is not an orangutan).

The solution to the second one is has Crockpot implies not using Kraft mac and cheese (no one with a crockpot will use Kraft mac and cheese).

The solution to the third is this Triangle implies not Uniformly pointy (these triangles are not uniformly pointy).

The solution to the fourth is Lemur implies not Eats caviar (no lemur eats caviar).

Using the letters in the final implications (in that order) gives you **MOCK TURTLE**.

Fast Forward

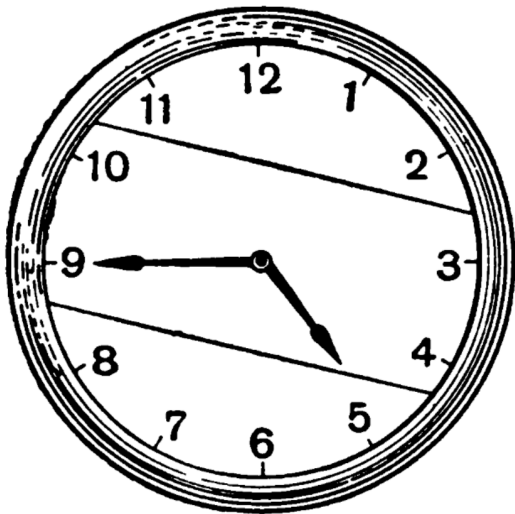
The solution for this puzzle can be used for the next puzzle, Tulgey Wood, when used to reverse the Caesar cipher shift on the purple text.

The trivia questions should direct the flowchart down to ... subtract res + 6 square ($26 + 28 - (15 + 6) = 54 - 21 = 33$).

For C, the lines are (2, 11) and (4, 9).

The D->C arrow should have been reversed. For C, you can draw lines from 4 to 9 and 2 to 11. Depending on how you draw them, they could also be 5 to 8 and/or 3 to 10. Either way, the sum of the endpoints is 26. Additionally, for D we told you to interpret YES as day of the month and NO as hour (the correct line was YES).

In the final judging we accepted both 33 and 35 due to the mistake in the answer checker.



Tulgey Wood

Next to the engraved text is playful, cat-like writing in glittery paint. It reads:
~ the top left corner is true! ~ (when the shift is reversed).

TRUE	FALSE	FALSE	TRUE	FALSE
FALSE	TRUE	FALSE	FALSE	TRUE
FALSE	FALSE	TRUE	TRUE	TRUE
FALSE	TRUE	FALSE	FALSE	FALSE
TRUE	FALSE	TRUE	FALSE	FALSE

The goal is to make the statements logically consistent. Interpret the truth of the statement as a bit (0 -> FALSE, 1 -> TRUE) and read across the rows in a 5-bit encoding the way the top left statement tells you to, which gives you RIGHT. Also, this should not depend on whether or not you consider Y to be a vowel.

That Depends Pt. 3



Clue pairs:

- Across: (1 + 8), (2 + 9), (3 + 13), (4 + 10), (5 + 15), (6 + 19), (7 + 17), (11 + 16), (12 + 18), (14 + 20)
- Down: (1 + 18), (2 + 12), (3 + 6), (4 + 11), (5 + 13), (7 + 16), (8 + 14), (9 + 17), (10 + 19), (15 + 20)

Unscrambling the highlighted letters reveals:

FRUMIOUS

BANDERSNATCH

These words are separated by color.

The Queen

The key lies in realizing that everything else is a Chess piece and the queen is missing on the board. Place the queen in a position where it can not attack any other piece.

This position is [6, 2].

The other animals are a fish (whiting), a turtle, a lobster, a snail, and a shrimp. Based on the book, the other animals are already in the dance or they don't want to participate. So the only free animal is the shrimp.

Connect the **shrimps** to the 1-2 closest **crabs**, which can be garnered from the poem.

Eat Them All



Like Alice, you've fallen down a strange rabbit hole. But it knows that you are a very clever Purdue student, and is going to mess with you much more than it did with Alice.

When you reach the bottom, you find yourself in a room surrounded by desserts. Piles of baked goods from all corners of the world tower around you. Strewn about the floor and on top of pies are several slips of paper that read,

Don't Forget to Eat Me!

When you try to muscle your way through, you simply find your path blocked again by desserts that seem to spawn out of nowhere.

On a tea table nearby, you find another piece of parchment:

“A note about my desserts. They may shrink you, grow you, or keep you the same size. Most are delightful but some may have... unpleasant effects. I'm afraid that you won't be able to recover if you eat them in the wrong order; that is, if you eat two in a row with such effects without a revitalizing treat in between. Thus, I have attached all the necessary information for you to choose. **Trying all the sweets will give you your next task, but you must tell me: what will you need to complete it?**”

NUTRITIONAL INFORMATION:

You must count the same way you count wise men, blind mice, and tangible dimensions. Each dessert gets an odd effect rating of 0-2 (0 – mundane, 1 – invigorating, 2 – rather villainous)

Each dessert gets a size rating of 0-2 (0 – nullipotent, 1 – shrink, 2 – grow)

You must eat the desserts near you before you can eat ones farther away.

Some effects cancel out others, even if they are both rather villainous.

Order	Dessert	Letter	Size Effect (0-2)	Odd Effect (0-2)	Spatial Category
1	Scone	S	2	0	Near

2	Linzer torte	L	1	0	Near
3	Amandine tart	A	1	2	Near
4	Yorkshire pud	Y	1	1	Near
5	Taiyaki	T	2	1	Near
6	Halwa	H	0	0	Near
7	Eccles cake	E	2	0	Mid
8	Jam trifles	J	0	0	Mid
9	Arctic roll	A	0	1	Mid
10	Bakewell tart	B	1	0	Mid
11	Banoffee pie	B	2	1	Mid

12	Eton mess	E	1	1	Mid
13	Red bean buns	R	0	0	Far
14	Welsh cake	W	0	1	Far
15	Opera cake	O	1	2	Far
16	Castella	C	1	2	Far
17	Kouign-A mann	K	1	0	Far
18	Streuselku chen	S	0	1	Far

This puzzle was last minute and thus a bit rough around the edges, and probably needed the poem hint. I originally intended to have the size constraint force the ordering, but alas, it needed more time to bake. Congrats if you were able to solve it!

Anyone who has gotten this far solving the puzzles will know that there is often some sort of Alice in Wonderland/Lewis Carroll reference that will help you solve the puzzle. Looking at the first letter of every sweet you'll probably notice the JABBERWOCK in there. Force the letters in that order + rearrange the others to make some sense.

There are additionally two odd effects that cancel each other out: Opera cake and Castella (in that order), so you are allowed to eat these consecutively.

The flavor text implies to count in 3s, or in a ternary system. The correct ordering will give the word “VORPAL” when converting every trio of digits in size effect to its corresponding letter in the alphabet, and “BLADES” when doing the same for the odd effects. This is also a phrase from Lewis Carroll’s poem “Jabberwocky”, so the task is “SLAY THE JABBERWOCKS”.

SORRY ABOUT THIS PUZZLE

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