BUSTED

PuzzleBot's internal processor has exploded! Help piece together its files and re-**index** to find an acceptable replacement from the wreckage.

Clue	Answer	Index	Piece	Index	Clue	Answer
Star Trek's AI lieutenant	7 DATA __ __ __ __	5	BASE	+1	Lawyer's exam	BAR __ __ __
Music group	9 BAND __ __ __ __	3	WIDTH	+2	Substance with pH of > 7	BASE __ __
Hammer, e.g.	6 TOOL __ __ __ __	5	BAR	+4	Surfer's need	BOARD __ __ __
Not con	5 PRO __ __ __	2	GRAM	+1	Fancy dressing for artwork	__ FRAME __ __
Lock's companion	8 KEY __ __ __	4	BOARD	+3	Mass of a paperclip	GRAM __ __
Difficult	4 HARD __ __ __ __	1	WARE	+2	Actor's booklet	__ __ SCRIPT __ __
Fisherman's aid	6 NET __ __ __	4	WORK	+1	Spinning toy	TOP __ __ __
Popular street name	3 MAIN __ __ __ __	2	FRAME	+3	Something a seller is hawking	WARE __ __ __
Coffee	3 JAVA __ __ __ __	1	SCRIPT	+6	Partner of length and height	__ WIDTH __ __
Writing surface	2 DESK __ __ __ __	1	TOP	+2	Labor	WORK __ __

ANSWER: SHARD DRIVE

AUTOPILOT

February 2023

PuzzleBot needs to use its autopiloting system to run some errands, but it is missing something important. Its processors know the steps required to get to each destination, but the order is jumbled in its memory. To make matters worse, its autopilot was programmed by a Roomba!

PuzzleBot drives straight until it crashes into a wall or obstacle, at which point it **stops** and changes direction 90°, repeating the process until reaching its destination... even if it's not taking the most efficient route. At the start of each trip PuzzleBot's sensors are fine, but **after each crash,** they **shift incrementally more** out of sync.

Help PuzzleBot find its way to each X and recover something that will make its next trip even better!

STEPS
NORTH
SOUTH
SOUTH
EAST
EAST
WEST

STEPS
NORTH
SOUTH
EAST
EAST
WEST

STEPS
NORTH
SOUTH
SOUTH
EAST
EAST
WEST
WEST

Letters shown are shifted progressively forward

SPEED ONLY MEMORY

INPUT/OUTPUT

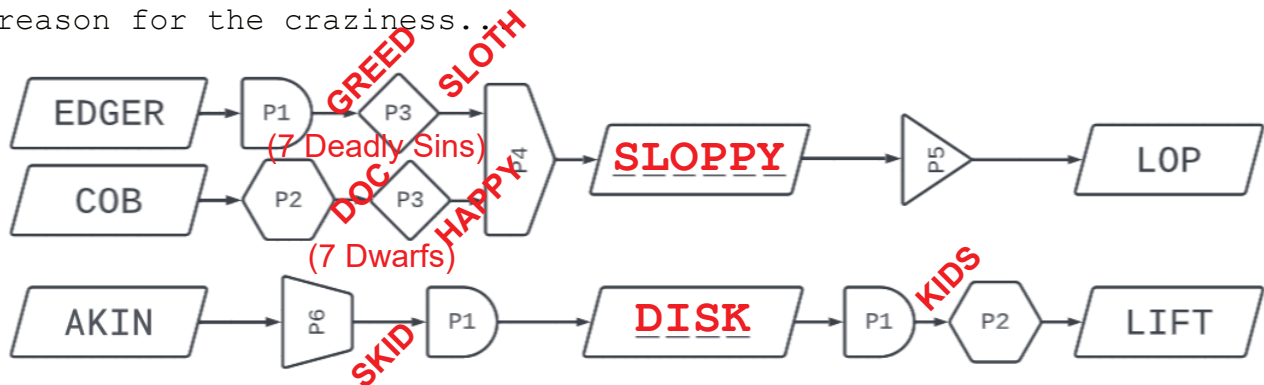*Puzzled Pint — February 2023*

PuzzleBot has six programs in its memory and it cannot remember what they are for. It tested them with a few inputs to see what they did. The programs only work if their outputs are real words. If a program has multiple possible outputs, it picks one at random! Why does PuzzleBot even have these programs??

PUZZLEBOT'S TESTS

ENLARGE → P1 →
TABLET → P1 →

P1: Output an anagram of the input

BURN → P2 → CUSP
HERS → P2 → JEST
LEMUR → P2 → MENUS

P2: Output word with all consonants shifted forward by one consonant

DIME → P2 → P6 → MINT
DIME → P2 → P6 → SINK

P6: Output word with different first and last characters

NORTH → P3 → EAST
NORTH → P3 → SOUTH

P3: Output another item from the set

SATURN → P3 → P1 → HEART

HYDROGEN → P3 →
HYDROGEN → P3 → } P4 → HELPER

P4: Output first 3 from top word plus last 3 from bottom word

HYDROGEN → P3 →
HYDROGEN → P3 → } P4 → CARVER

SMELL → P3 → P6 → PASTY

SPANNER → P5 → P1 → NAP

TRIBUTE → P5 → P3 → ...

TRIBUTE → P5 → P3 → ULNA

P5: Output characters 2-4

After playing around with the programs for a while, PuzzleBot stumbled upon the reason for the craziness...

EDGER → P1 → *GREED* → P3 → *SLOTH* (7 Deadly Sins) →
COB → P2 → *DOC* → P3 → *HAPPY* (7 Dwarfs) → } P4 → **SLOPPY** → P5 → LOP

AKIN → P6 → *SKID* → P1 → **DISK** → P1 → *KIDS* → P2 → LIFT
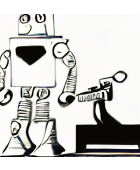
SLOPPY DISK

Input/Output Solution Walkthrough

1. From the BURN, HERS, and LEMUR test cases, P2 shifts all consonants forward 1 consonant, skipping over vowels, and leaves all vowels alone.
2. From the NORTH test cases, P3 randomly outputs a different member of the same set.
3. From the DIME test cases, P2 outputs FINE, so P6 outputs MINT or SINK randomly from FINE, revealing that P6 outputs an output word with different first and last letters from the input word.
   a. The SMELL test case logically produces TASTE in the middle and then PASTY for the final output, confirming the interpretations of P3 and P6
4. From the first TRIBUTE test case, we know from P2 that the middle arrow represents RIB. From this, a logical guess is that P5 outputs letters 2, 3, and 4 from the input.
   a. This guess is verified by the second TRIBUTE test case, as RIB is a different member of the Bones set from ULNA, verifying P5 and P3.
5. To determine what P1 does, we look at the SATURN and SPANNER test cases. From SATURN, we know that the middle arrow represents another planet. HEART has the same letters as EARTH, so a reasonable guess is that P1 either anagrams the input or shifts the last letter of the input to the beginning. From SPANNER, we know that the middle arrow represents PAN, so P1 must just anagram the input.
6. From the ENLARGE/TABLET test case, the P1 anagrams are GENERAL and BATTLE. As the P2 output is GENTLE, a logical guess is that P2 takes the first 3 letters from the top word and the last three letters from the bottom word.
   a. This guess is verified from the HYDROGEN test cases, where middle elements HELIUM/COPPER and CARBON/SILVER produce the corresponding P2 outputs HELPER and CARVER
7. For the EDGER/COB test case, the P1 output is GREED so the top P3 output is likely another of the 7 Deadly Sins. The P2 output is DOC so the bottom P3 output is likely another of the 7 Dwarves. From the final LOP, we know that the P5 input must be a word of the form ?LOP??. The only Deadly Sin starting with ?LO is SLOTH. The two Dwarves that end with P?? are DOPEY and HAPPY, which would produce either SLOPPY or SLOPEY. SLOPEY is not a word, so the middle entry is SLOPPY.
8. For the AKIN test case, the input to P2 must be KIDS, so the middle word must be an anagram of KIDS, or either DISK or SKID. But the output of P6 must be ?KI? and an anagram of KIDS, so that word must be SKID and thus the center word must be DISK.
9. So the final answer is **SLOPPY DISK**.

Puzzled Pint
February 2023

NETWORK FAILURE

Social media is infiltrated with bots, and PuzzleBot is loving it! Unfortunately, PuzzleBot is getting a little overwhelmed by all the invites and requests - each profile **telegraphing** the most minute details of a bot's personal life, even things that may be better kept **hidden.** What can help PuzzleBot successfully navigate its social network?

All profiles have hidden dot or dash shaped items, decoded as Morse.

StandardBot   . . - . = F
Wanted other bots to fly with it
Can't do the most basic math
Loves wearing Bermuda shorts
Is allergic to avocado toast

👍 Like 💬 Comment ↔ Share
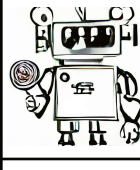
SportsBot   . - . = R
Plays the cymbal late at night
Favorite WNBA team is the L.A. Sparks
Can rotate each limb all the way around

👍 Like 💬 Comment ↔ Share

MathBot   . . = I
Has a bulldozer only for special occasions
Went to the prize round on a game show

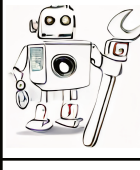👍 Like 💬 Comment ↔ Share

CandyBot   . = E
Had a dream & made it real

👍 Like 💬 Comment ↔ Share

TreeBot   - . = N
Wore a mullet wig once
Tried a corn dog at the county fair

👍 Like 💬 Comment ↔ Share

MechanicBot   - . . = D
Thinks symbol tattoos are rad
Went to college in Utah
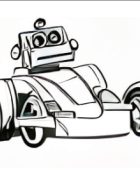Brought a gnu to the prom

👍 Like 💬 Comment ↔ Share

BreakfastBot   - . - . = C
Had to climb a conifer
Makes its own nutmeg ginger ice cream
Played the tuba confidently
Has a bootleg Grease 2 DVD

👍 Like 💬 Comment ↔ Share

VeggieBot   . . . . = H
Befriended an ape at the zoo
Wears a cape and mask
Won't stop eating 30 min before swimming
Stops to tap each doorknob it passes

👍 Like 💬 Comment ↔ Share

RacerBot   . . = I
Shouts "whee" loudly on the bus
Wears bright red and yellow heels
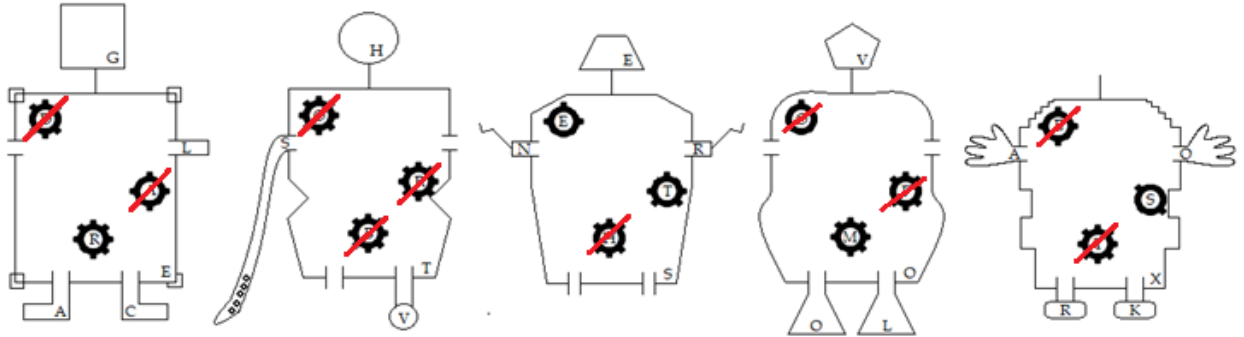
👍 Like 💬 Comment ↔ Share

PercussionBot   . - - . = P
Ends each day with a glass of iced rum
Won a Six Flags ticket from a local raffle
Keeps a plastic knife in its breast pocket
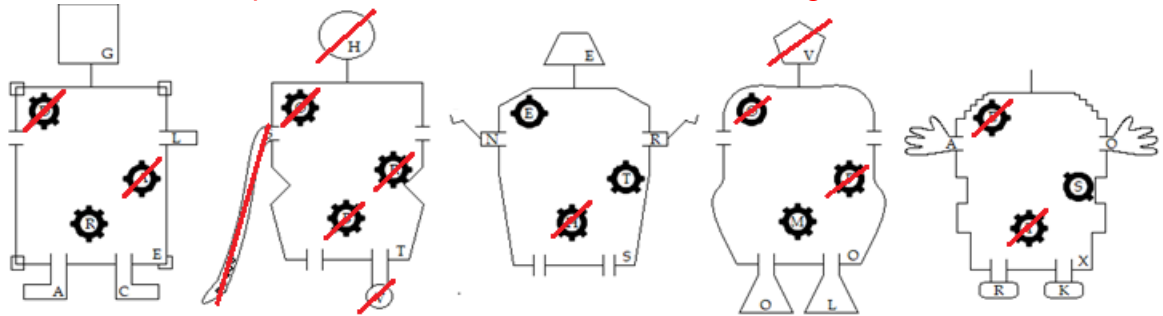Started a mean-spirited rumor
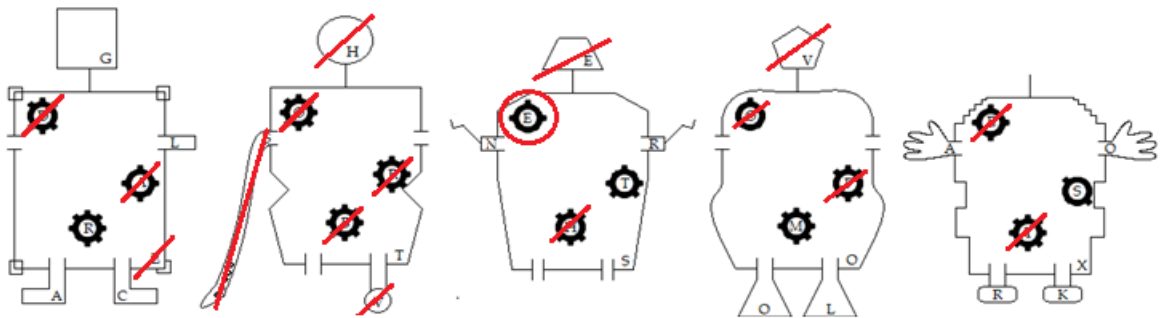
👍 Like 💬 Comment ↔ Share

FRIENDCHIP

1. Eliminate All Gears that are not prime numbers (2, 3, 5, 7)

2. Eliminate all non quadrilateral heads, tentacles, and all legs that don't match

3. The gear "E" on robot 3 is the only one left in that slot. It must go there. Therefore the head of that robot and the body of robot 1 cannot be used (no duplicate vowels).

4. Only head "G" remains. It cannot be the legs of robot 1, because the legs have to match and each robot cannot contribute more than 2 features.
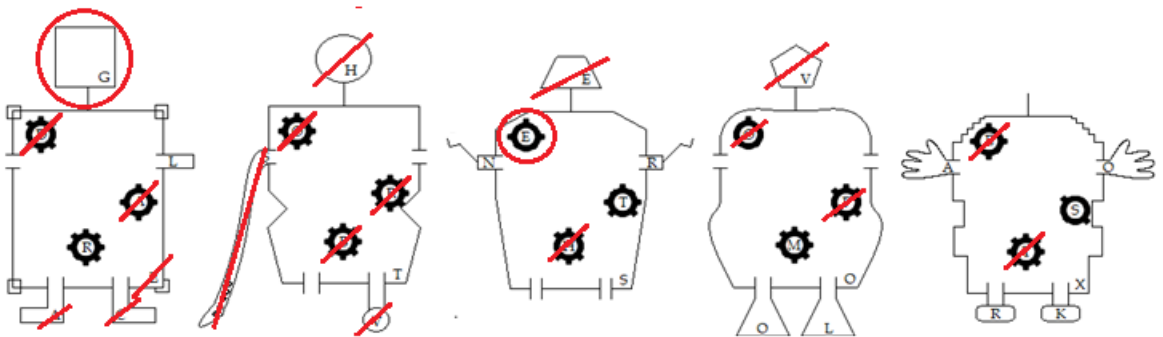
5. The robot must have a hook. One of the hands of robot 3 must be on the final robot. That plus the gear are the two allowable features. Gear "T" cannot be in the final robot and body "S". That leaves gear "S" from robot 5 in that position.
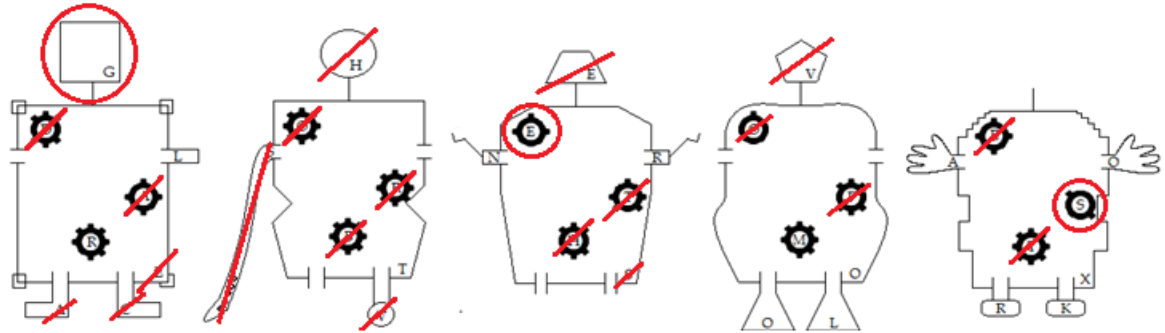

6. The legs cannot both be from Robot 5, so the legs must come from Robot 4, which eliminates all other features from 4.
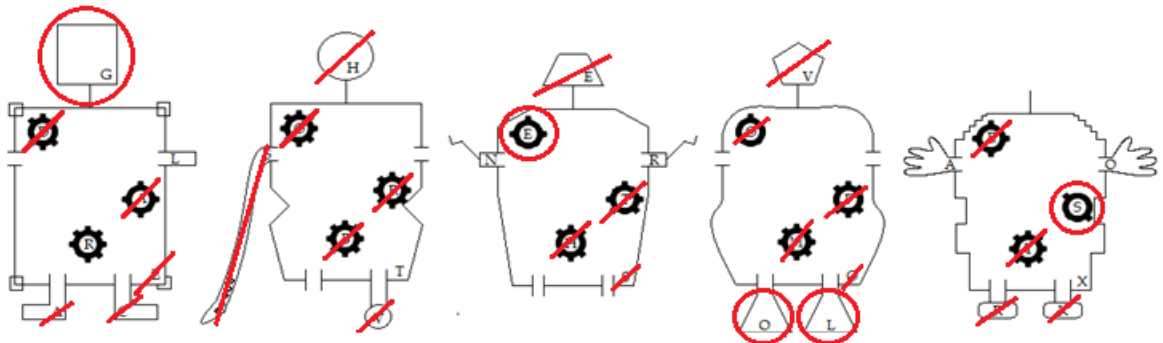

7. Puzzlebot has 9 features from 5 ParentBots. If each can contribute a max of 2 features, then 4 of the robots contribute 2 features, and 1 contributes 1. Robot 2 only has body "T" remaining. This eliminates the body of robot 5.
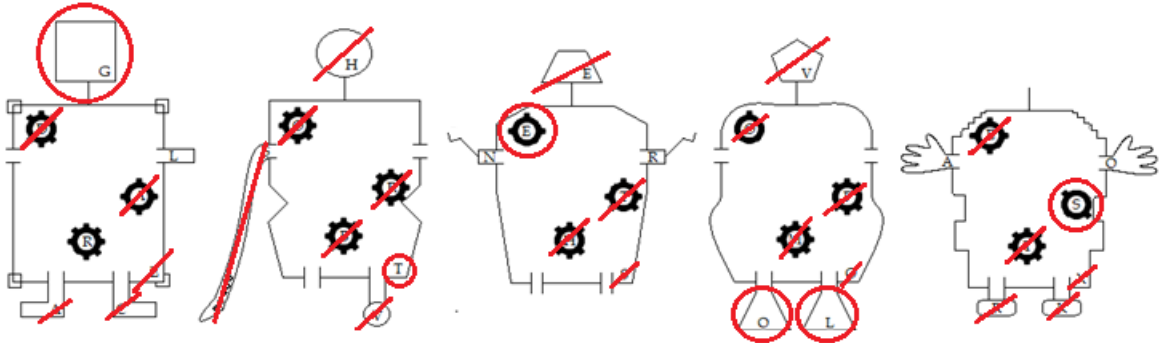
8. Vowels cannot be duplicated so hand "O" on robot 5 cannot be used, which means arm "A" must be used.
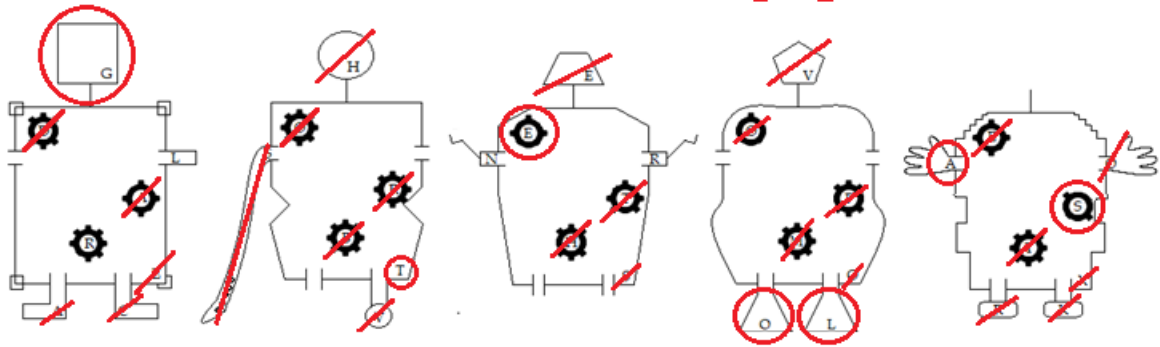
9. Arm "A" is not a hook, so arm "R" must be on PuzzleBot. Also gear "R" on Robot 1 is all that is remaining.
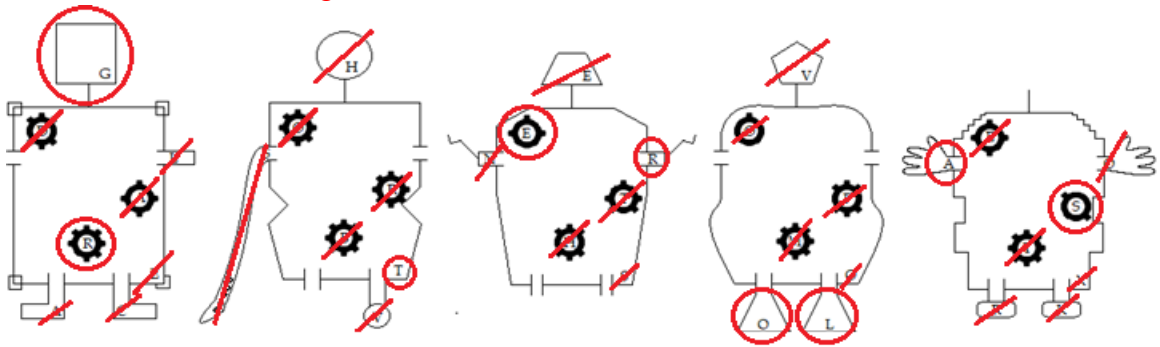
10. Putting that all together you get
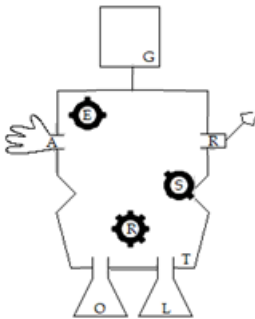
11. Reading top to bottom, left to right you get "GEARS R TO L"
12. Looking at the flavor text you will notice the phrase **R**ight foot and a **L**eft arm indicating that the R and L in the hint stand for Right and Left.
13. Reading the gears right to left you get

STEP MOTHER BOARD

TROUBLESHOOTING

META

PuzzleBot has been having a rough day. It has been trying to upgrade its system with the new tech it has acquired, but that involves writing some code. Muddling through an array of **21 consonants and 5 vowels**, PuzzleBot starts to code, but it quickly detects that some **bits** are wrong! Help it clean up its code and come up with a solution to resolve its issues.

Location Puzzle

Busted (10,11): S H A R D   D R̲ I V̲ E
0 0 1 0 0 : D   0 1 1 1 1 : O

Autopilot (6, 5, 2): S P E E D   O̲ N̲ L̲ Y̲ M̲   E M O R Y̲
0 0 1 1 0 : F   0 1 1 1 0 : O   1 0 1 0 1 : U

Input Output (4, 1): S L̲ O P̲ P   Y̲ D I S K
0 1 1 1 0 : N   1 0 1 0 0 : T

Network Failure (7,12): F R I E N   D C̲ H̲ I P
0 0 1 1 0 : F   0 1 1 1 0 : N

Some Assembly Required (8, 3, 9): S T E̲ P M̲   O T H E R   B O A R̲ D
0 0 0 0 1 : A   1 0 0 1 0 : R   0 1 1 1 0 : N

Final Answer: T U R N O F F A N D O N
‾1‾ ‾2‾ ‾3‾ ‾4‾ ‾5‾ ‾6‾ ‾7‾ ‾8‾ ‾9‾ ‾10‾ ‾11‾ ‾12‾

Nanobots - SOLUTION

PuzzleBot has now made millions of new friends... several swarms of nanobots. The swarms work together in **pairs** and are identified only by their shared goals. The highlighted bots in each pair of swarms will help point out the method to the madness in the grid below. These bots provide the missing **links** to help PuzzleBot name this strange arrangement of tiny helpers.

Partnership Goals:

To find Nemo – MARLIN & DORY
To boldly go where no man has gone before – KIRK & SPOCK
To save Gotham City – BATMAN & ROBIN
To discover if the truth is out there – MULDER & SCULLY
To solve the case of the red-headed league – SHERLOCK & WATSON
To take the ring to Mordor – SAMWISE & FRODO
To have a grand day out – WALLACE & GROMIT
To figure out Who's on First – ABBOTT & COSTELLO
To try to take over the world – PINKY & THE BRAIN
To thwart the spies, Natasha and Boris – ROCKY & BULLWINKLE

First, find each of the partners in the grid. The nanobot swarm shapes show the shape that the words take. Each word has at least one unique nanobot shape. The nanobots in paired words are adjacent to shared letters indicated by the marks in the shapes. Reading those letters right to left, top to bottom spells out the solution.

A	M	R	Y	N	I	W	L	L	S	H	L	O
R	C	O	S	K	N	O	O	U	B	E	R	C
L	P	D	E	L	O	C	K	N	O	S	E	K
I	W	J	O	E	R	I	Y	K	R	T	A	W
N	A	L	L	N	I	K	R	I	E	D	D	C
L	R	A	A	C	B	T	I	W	C	L	U	M
M	I	M	O	E	O	O	P	S	O	Y	S	N
A	T	K	R	G	R	C	R	O	D	P	C	U
K	I	P	G	B	A	K	F	S	A	S	I	L
K	N	Y	E	H	T	G	S	W	M	A	Y	L
Y	T	Y	B	T	M	E	S	I	C	E	B	O
N	I	A	R	E	A	N	H	E	O	F	B	T
R	I	N	B	O	L	L	E	T	S	M	A	T

SOLUTION:

COOPERATING SYSTEM