Rules

You are about to embark upon a Conundrum. Unlike other puzzles, the instructions for this puzzle are clear and explicit; simply follow the instructions exactly as they are written, and the answer will be spelled out for you. All you need to do is, at each time step, look at what is written on your instructions for that time step, and carry out the instructions. You always carry out one numbered instruction per time step.

Note that you follow the instructions as they are written when you get to them; if instruction 5 says to cross off instruction 4, then you will still do instruction 4 when time step 4 comes along.

Unlike other Conundrums, this is a Time Conundrum. You may encounter time travel, closed timelike curves, and, if you do things wrong, inconsistencies and grandfather paradoxes. Your goal is to make it through with a single consistent history.

1 Timesteps

During each time step, two things happen, in this order:

- 1. You take the action listed on your instructions under the number of the timestep.
- 2. Any items present act. Items only take actions if you have instructed them to do so, or if they are a DUCK or a ROBOT (see below). If there are multiple items taking actions, the ones that press Big Red Buttons act before any others. Multiple items pressing the Big Red Button act simultaneously, all pushing the button together.

After the timestep is complete, but before the next timestep, any items arriving from distant points in time appear in the center of the room.

2 Items

You will encounter various items:

- 1. The name of an item is exactly the string that appears in ALL CAPS whenever the item is mentioned.
- 2. You are not an item.
- 3. An item is "present" if it is in the room, including in the TIME MACHINE.
- 4. Items will *never* be brought into or removed from the room without cause. You are not a wizard who can spontaneously create things. Of course, items might appear or disappear due to time travel, but this will only happen if legitimately caused by the TIME MACHINE according to its rules.
- 5. An item's age is defined as the number of timesteps since it entered the room as measured by an internal clock on the item. So if it entered the room on timestep 4, then during timestep 7 its age is 3. If during timestep 7 it travels back in time by 6 timesteps, arriving after timestep 1, then on timestep 2 its age is 4. "Younger" and "Older" refer to comparisons of this age.
- 6. If there are several copies of the same item present and the instructions do not specify a particular one (e.g. they say "the BANANA"), they mean the oldest one.
- 7. If the instructions refer to "The BANANA," that means that there is at least one BANANA present.
- 8. A "DUCK" is an item that occasionally moves on its own. At the end of each positive prime numbered timestep (after you finish whatever you do, but before anything appears from other times), each DUCK will act. If it is not in a TIME MACHINE, it will enter the TIME MACHINE. If it is in a TIME MACHINE, it will press the Big Red Button on the TIME MACHINE it is in.

9. A "ROBOT" is an item which, whenever it is present on a timestep which ends in a 5 (-15,-5,5,15,25, etc), resets the TIME MACHINE's dial to be equal to the ROBOT's current age.

3 Wording

- 1. "A BANANA that is yellow" means that there is exactly one such banana, or, if there are more than one, it does not matter which is being referred to.
- 2. "All BANANAs" means all of the bananas. There could be none.
- 3. An object which "just arrived" or "just appeared" is one which appeared in the middle of the room after the previous timestep and before the current one.

4 Other Notes

- 1. You will often be told to use letters and numbers interchangeably. You should always use the conversion A=1, B=2, and so on, unless otherwise specified. You should never have to convert a number that is not between 1 and 26 to a letter.
- 2. If you ever find yourself with several sets of instructions in the room, use the oldest one.
- 3. Time is infinite in the past and future; you simply take no actions before your instructions begin or after they end.

5 Starting

You begin on timestep 0 (the time when you unlocked this puzzle). On timestep 0, you enter the room carrying your COMPUTER and these INSTRUCTIONS. As you can see, the INSTRUCTIONS have a space marked "Answer" at the top of page 4. When told to write in the "slots," write in these blanks. They are numbered from left to right.

The room is empty except for a single TIME MACHINE, which was brought into the room at some point in the very distant past, long previous to the time of your actions or any effects of your actions (this act of bringing the TIME MACHINE in is the only exception to rule 2.4).

Time Machine Manual

The TIME MACHINE

A TIME MACHINE causes time travel. It has two controls:

- A dial, which can be set to any integer. This represents the distance forward or backward that objects in the time machine will be sent.
- A Big Red Button. When pressed, any items inside the TIME MACHINE are transported to a different point in time, indicated by the dial. So if you press the Big Red Button on timestep 17 and the dial says +3, the items appear on timestep 20.
- The items appear in the center of the room (not in the TIME MACHINE), immediately after the timestep indicated.
- The TIME MACHINE does not move itself, only its contents.

Warmups

If you've already started the puzzle, you'd better not waste time on these warmups or else all the precise timing will be broken - you have to keep doing exactly one instruction per timestep!

But if you have some time before you start, it might be worth running through these smaller sets of instructions first, to get a feel for how the TIME MACHINE works. Figure out how to follow the instructions without leading to a contradiction.

Warmup A

- 0. Begin with an empty room except for a TIME MACHINE with dial set to 0.
- 1. Get a DUCK and put it in the room.
- 2. Add 1 to the TIME MACHINE's dial.
- 3. There is now a DUCK in the TIME MACHINE.
- 4. There are no DUCKs in the room.
- 5. There is a DUCK in the center of the room.

Warmup B

- 0. Begin with an empty room except for a TIME MACHINE with dial set to 0.
- 1. Subtract 1 from the TIME MACHINE's dial.
- 2. Subtract 2 from the TIME MACHINE's dial.
- 3. The TIME MACHINE is not empty.

Answer: _ _ _ _ _ _

Instructions

- 1. Hurray! Read the answer from the new INSTRUCTIONS that just appeared. This is the correct answer to the puzzle; go ahead and call it in. You're done!
- 2. What, you're still working? Ok, then. First of all, the new set of INSTRUCTIONS is necessarily older than the one you brought with you, so make sure to use it instead, according to rule #4.2. But because it has the right answer already written in and we wouldn't want to write over the correct answer, whenever you're told to write a letter, write it in the "Answer" blanks on the original (younger) one. Now, write the appropriate letter in the seventh slot. (Not the *correct* letter; that would lead to a paradox. Write the unique letter which does *not* lead to a paradox.)
- 3. Read the TIME MACHINE's dial, and write it into the first slot of the answer. Then set the TIME MACHINE's dial to the number of items in the room.
- 4. Read the TIME MACHINE's dial, and write it into slot where the final answer has a S.
- 5. The ROBOT that just appeared is going to reset the TIME MACHINE's dial now. Figure out what he will set it to, and write the result in the tenth slot.
- 6. Ok, enough observing. Time to try it out! Put the ROBOT in the TIME MACHINE and press the Big Red Button.
- 7. Note that there are more than 4 items present.
- 8. Count the number of vowels present in the names of all the items. Subtract the sixth letter of the answer, and write the result in the 4th spot.
- 9. Decrement the time dial by the 4th, 5th, and 7th letters of the answer (one after the other; in other words decrement by their sum).
- 10. Count the number of Cs present in the names of all the items present. Write the sum of that number and the time dial in the eighth slot.
- 11. Go buy a CUCUMBER and put it in the TIME MACHINE.
- 12. Add the square of the 9th letter of the final answer to the time dial.
- 13. Press the Big Red Button.
- 14. Addend the following instruction to the end of step 22 of the younger INSTRUCTIONS, and to step 29 of the older INSTRUCTIONS: "Write the sum of the digits in the time dial (ignoring the negative sign) minus the third letter of the answer in the 3rd slot."
- 15. Having two sets of INSTRUCTIONS is confusing. Burn one. No, wait! The older one must be the younger one after it traveled back in time, so you'd better make them match. There are currently four handwritten corrections on the older one, two of which you need to transfer over to avoid paradoxes. First, caesar shift the "S" in step 4 forward by the 7th letter of the answer. Second, cross out step 12 and replace it with "Increment the time dial by 4, then square it, then decrement it by 1." Although, looking back on it, notice that the second change didn't actually affect the result of step 12 at all. After making those changes, burn one set of INSTRUCTIONS (the one you can burn without causing a paradox).
- 16. Write the length of the shortest item name present in the 5th slot.

- 17. Add 7 to the TIME MACHINE's dial.
- 18. Having the ROBOT around is probably confusing you. Go to the dump and dispose of it.
- 19. Eat the CUCUMBER, after writing its age in the 9th slot.
- 20. Oh, dear, look what you've done. Now you've gotten rid of a ROBOT, but never actually acquired one. To fix it, you'd better go to the store and buy a new ROBOT. Bring it back and put it in the TIME MACHINE, then press the Big Red Button. Note that eating the CUCUMBER was fine, since you already bought the CUCUMBER in step 11.
- 21. There is in the room a TIME MACHINE with dial not set to -4! Set it to -4, quick!
- 22. There are two items present with multiple copies of the item (of different ages) present. Put the youngest copy of each in the TIME MACHINE. (One of them might not fit so well, but you should be able to squeeze it in if you pinch the corners down). Press the Big Red Button. Then decrement the TIME MACHINE's dial by the first letter of the final answer. Then increment the TIME MACHINE's dial by the last letter of the final answer. Put the ROBOT in the TIME MACHINE, and press the Big Red Button. Kill all the DUCKs in the room.
- 23. Decrement the TIME MACHINE's dial by the eighth letter of the answer.
- 24. The object present with the shortest name has never been created nor destroyed; it is in a perpetual time loop. Figure out the period of the time loop (using the normal age rules #2.5). Note that this length is equal to the sum of the second and third letters of the answer.
- 25. Figure out the COMPUTER's age. Add one, divide by 3, and add one, then write the result in the 6th slot.
- 26. Remove the DUCK from the TIME MACHINE.
- 27. You now have something written in the answer space! It's not the answer of course you already know the answer, and have since step one. Why are you still working, again? Well, anyway, you have a thing written in the answer slot; maybe you should call it in even though it's wrong?
- 28. No, wait, don't call it in yet! Take the COMPUTER (not a COMPUTER being held by another character), open a web browser, and navigate to the puzzle page for this puzzle. Type the phrase written in the answer space into the "Call In Answer" box, but don't click submit. Relieve the MONKEY of his current possession, and hand him the COMPUTER you typed into. Put him in the TIME MACHINE.
- 29. Instruct the MONKEY that on the next timestep he experiences, he should press the "Submit" button on the COMPUTER. Then he should wait until timestep -2, at which point he should get in the TIME MACHINE (still carrying the item he brought with him) and press the Big Red Button. After ensuring that he understands his instructions, press the Big Red Button.
- 30. Increment the TIME MACHINE's dial by 3 less than the 5th letter of the final answer
- 31. All right, seriously, enough dorking around with time machines ... much more of this will probably disrupt some spacetime continuum or something. Erase the nonsense thing in answer space at the top of these INSTRUCTIONS, and write the actual final answer. Xerox these instructions, and put the original into the TIME MACHINE.
- 32. Press the Big Red Button. Set the TIME MACHINE's dial to negative the first letter of the final answer, as a hint to anyone who comes in after you. Take one last look around the room should be empty except for the TIME MACHINE, your COMPUTER, and a set of INSTRUCTIONS. Take the COMPUTER and INSTRUCTIONS with you (but leave the TIME MACHINE). Leave this strange, strange room, and go back to the rest of the Hunt.