## Responses to Question on Exam 2

## The Prime Directive: ...

Be transparent! Explain how you have come to your decisions. No assertions without thought processes and sources

## What to Expect for Exam II

- Results vs Conclusions (Part 1, Part 2) (in poetry and in research article)

Question 4: Did it rain today? You may define "today" as any day between October 1 and October 7, 2019.

## RESPONSES

| 1 | It did not rain today the weather has been cool and sunny. |
| :---: | :--- |
| 2 | Yes; it rains every day, as somewhere in the world rain will assuredly fall. In Northern <br> Virginia, however, which is where I am as I'm writing this, it rained October 7th. |
| 3 | At the time of writing this answer it has not rained in any area that I am able to observe. |
| 4 | Today it did not rain. There were light gray clouds filling the sky with some sun poking <br> through as the clouds moved. There was no water laying on the sidewalk as I walked. My <br> clothes and skin stayed completely dry. |
| 5 | It has been hot for the past few days, but it has not rained yet. If we are going by the literal <br> water falling for more than 5 minutes from the sky definition, then it has not rained but if <br> we were to take small dew/precipitation then it might have occurred while I was asleep. I <br> also did not look out the window and stay in most of the time so it hasn't rained yet <br> because it did not rain when I left the house for class. |
| 6 | Yes, on october 3rd it rained in Lucerne, Switzerland, as is supported by accuweather's <br> radar on their website. |
| 7 | By today, I defined "today" as a 10/5/2019 from 8: 00 am to $11: 59$ pm at Mechanicsville, <br> Virginia. I did not observe any raining based my own personal observation during that <br> time while I was outside of the building. Observation may varies based on person to <br> person due to my limited ability observe weather constantly between that timeframe. |


| 8 | If I define "today" as Wednesday, October 2, 2019, then it did not rain as far as I observed at Virginia Commonwealth University in Richmond, VA. I did not see or feel any precipitation when I looked out the window or when I was outside. It is still possible that it did rain and I just did not observe it because I was sleeping or indoors and not looking out a window. Additionally, it is possible that it rained elsewhere in the world, so while I can partially conclude that it did not rain in Richmond, VA, that conclusion might not apply elsewhere in the world. |
| :---: | :---: |
| 9 | It did not rain any day between October 1st and October 7th, but it is starting to get chillier as Virginia is starting to realize that it's autumn. |
| 10 | As the day I answered this question was October 4, 2019, it did not rain during that day in Richmond Virginia. I have come to this conclusion as I did not contact rain with my any of my senses. |
| 11 | It did not rain today 10/5/2019 because the temperature is low 52 degrees and high 70 degrees with $70 \%$ humidity and 0 precipitation. It was clear around 12:54 am to $4: 54 \mathrm{am}$, Partially sunny around 7:54 am to 5:54 pm, and mostly clouded round 8:54 pm |
| 12 | Did it rain today (October $5^{\text {th }} 2019$ )? No, it did not rain today. I got to this conclusion of whether it rained today or not by first defining rain as if there were puddles of water on the ground or on any surface. When I woke up this morning and went outside, I didn't see any puddles of water or water droplets on any surface |
| 13 | It did not rain today (October 5) in Aldie, Virginia. It was a bit cloudy and the temperature was in the high $60 \mathrm{~s}^{0} \mathrm{~F}$ - so it felt a bit more like autumn! |
| 14 | It did not rain today, October 7, 2019. I know this because whenever I was outside, I did not observe any precipitation. I am limited by my observations, however, because it could have possibly rained while I was inside. Because it did not rain during my observations from when I was outside, I am assuming that it did not rain the entire day. This may turn out to be an inaccurate conclusion because I did not observe the weather the entire day of October 7. |
| 15 | It depends on where you are and if you can observe the rain to say it rained. <br> We can use a cup to measure if it did rain during the time we were outside. When we are outside we can directly observe whether or not it rained. We can recruit multiple people to $\log$ the weather using cups and their observations to the effect that we can say its raining or not prettymuch wherever people can set up a monitoring system. The government did this and thats pretty much how the weather service works. Knowing that the weather service can be trusted I can tell you weather it rained in lots of countries. <br> I did observe it raining on Saturday for a brief time in colonial height. |


| 16 | Assumptions: <br> - observer is me <br> - today as Oct 3th 2019 <br> Since I have not observed any rain today, therefore it was not raining today |
| :---: | :---: |
| 17 | It did not rain today, on October $4^{\text {th }}, 2019$. When I went outside of my house, I looked up at the sky and through my senses I observed there were clouds, it was a sunny day, around 82 degrees F , no precipitation falling from the sky. |
| 18 | Although some days were more cloudy than others, it did not rain in Richmond during October 1 - October 7, 2019. However, it did rain in Bear, Delaware when I went to see my grandmother in the hospital on Thursday, October 3, 2019. In fact, it rains in various places around the globe. According to my aunts in Vietnam, they are experiencing rainy season right now and according to my ecology professor, it is always raining somewhere. So, it did rain during October 1 and October 7, 2019, but not in Richmond. |
| 19 | Today: Oct 2, 2019 It did not rain today |
| 20 | As of 6:31 AM (time I woke up) to 10:46 (current time) on October 3, 2019, I have not observed any rain fall at VCU or near my home in Short Pump. Additionally, when I left my house this morning there was no evidence of an overnight shower. Our grass had a standard amount of morning dew on it (due to our newly installed sprinkler system) and the empty flowerpot at the front of my house was also dry. It had not accumulated any water, as would be expected if it had rained between the hours of 12:00AM to the time that I woke up. <br> - It is now 7:48 PM and there have been no signs of rainfall. <br> - It is now the next day, and the empty pot shows no sign of moisture therefore I can conclude that it did not rain all of October 3, 2019 or during the early hours of October 4th. |
| 21 | I defined today as October 3, 2019 and in order to answer the question I narrowed the scope. While it most probably rained somewhere in the world on October 3, 2019, for this question I defined a location, Richmond, VA, in order to assess if it rained. Rain was defined as water droplets falling from a cloud and reaching the ground. Based on that information, no it did not rain today. |
| 22 | Yes it rained today (October 7th) |

23
a. It did not rain today October 5th in RICHMOND. It might have rained in other cities or countries across the globe.

c. As you can see in the two pictures above, it is not raining in Richmond, VA, but it is raining in Fennimore, WI for October 5th.

24 The date I defined as "today" is October 4" ${ }^{\text {th }}, 2019$. According to the source, weather.com, the high for today is $97 \circ \mathrm{~F}$, and the low is $71{ }^{\circ} \mathrm{F}$. The humidity index is $38 \%$ and it is predicted to be "partly cloudy". There was no call for rain in the forecast. How accurate is the local weather prediction, though? Well, a seven-day forecast is accurate approximately $80 \%$ of the time, and a five-day forecast is accurate approximately $90 \%$ of the time. However, a ten-day forecast is accurate only half of the time. This is because weather prediction models are unable to collect data from the future, so forecasts are based off past estimates, trends and assumptions. Since the atmosphere fluctuates, the estimates become, "less reliable the further you get into the future" (USA.gov) I collected my information from weather.com's five-day forecast, meaning it is pretty accurate information.

I went outside on two separate occasions and made separate observations each time. First, I walked for 16 minutes from my apartment to my class from 9:40am to 9:56am. The sun was bright and there were only a few white clouds in the sky. The second time, I walked for 15 minutes from class back to my apartment at 11:50am. It felt warmer outside than earlier, and the sun was still shining with more clouds than earlier. During the time that I was in class, I sat near a window. The only changes in weather that I observed from looking out the window is that the wind seemed to pick up. For the rest of the day, I observed there were no raindrops on my window, on the sidewalk or on my body when outside. I observed that there were still no big dark gray clouds consuming the sky - also known as rain clouds. Instead, there was more of a scatter of smaller, white clouds.

From the information gained from weather.com and from my observations of the appearance of the sky made periodically throughout the day, I conclude that it did not rain in Richmond, Virginia on October 4th, 2019. In other parts of the world, it very well could have rained today, and of course if we define a day as a 24 -hour time period instead of the time that we are awake, then we must account for the time that I was asleep that day.
Because I was asleep, I was not able to make any observations of the weather so I can not fully assume that it did not rain.
https://scijinks.gov/forecast-reliability/
https://weather.com/weather/5day/

| 25 | Did it rain today? It could have, I am not sure. On October 3, 2019, I did not observe rain (defined as: water falling in visible droplets condensed from vapor in the atmosphere (Marriam-Webster), in my location throughout the day. That is not to say, somewhere around the world, it did rain. Because I can not account for every second around the world, I can not give a definite answer; it may have rained elsewere. |
| :---: | :---: |
| 26 | I can say that it rained "today", October 3rd by looking outside and not seeing any clouds or droplets or water fall on my face. But what is rain according to this problem? We know it as water falling in drops condensed from vapor in the atmosphere, but that is a comfortable explanation for myself, and it may serve me well to imagine as many alternatives to this explanation as I see fit. <br> In my mind, I think "raining" is actually sunlight, and I believe that it rained today, October 3rd because whenever I stepped outside on this day, I saw sunlight. Not only sunlight (I saw trees, the sky, clouds etc.), but I did see sunlight. Although this isn't our preconception of rain, since it wasn't defined in the question, I have shed my preconception of what rain is and replaced it with my own new conception of rain and linked my observations of it to be able to explain whether it "rained" today or not. |
| 27 | Making a conclusion as to whether or not it has rained definitely seems difficult to nail down as there isn't a single direct observable measurement of it. You can't say that it is water falling because that could be a waterfall or water spilling from a falling bucket. Also, it doesn't strictly have to be water either to be called rain. On Saturn the combination of heat and pressure is theorized to produce liquid diamond rain; on on other planets and moons there is methane rain, liquid helium rain, and sulfuric rain to name a few examples. There is some expectation of the condensation occurring in enough quantity to cover a fairly large area (beyond human visual range?) and to form large enough droplets to create large enough droplets to fall rather than become mist. It takes a wide range of generally observations to conclude that it is raining. Some might even argue that there is a distinction to be had between raining and drizzling! <br> Fortunately I feel there is an easy out to this question. With the widest possible scope of the question the answer seems to be an almost certain yes over almost any time frame. If you assume that you aren't merely constrained to this planet or to water based rain it seems likely that there was some rain over that 7 days worth of time. There are hundreds of billions of galaxies in the observable universe and another few hundreds of billions of stars in each galaxy. If each of these has around 1 planet or moon capable of some form of rain the frequency of rain per day per rain producing body would have to be an incredibly small number to make even a small chance of it not raining somewhere. |
| 28 | To my knowledge it hasn't rained on campus today (October 2). |


| 29 | The day I picked as today is Oct 6 . To see if it has rained today, I went to the weather app <br> on my phone. |
| :--- | :--- | :--- |
| Sunday todar |  |
| Nown |  |

