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## Part B: Problem 4

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## Part B: Problem 4: TreatedPatient Class

10.0/10.0 points (graded)

We also need a representation for a patient that accounts for the use of drug treatments and manages a collection of `ResistantVirus` instances. For this, we introduce the `TreatedPatient` class, which is a subclass of `Patient`. `TreatedPatient` must make use of the new methods in `ResistantVirus` and maintain the list of drugs that are administered to the patient.

Drugs are given to the patient using the `TreatedPatient` class's `addPrescription()` method. What happens when a drug is introduced? The drugs we consider **do not directly kill virus particles lacking resistance to the drug**, but prevent those virus particles from reproducing (much like actual drugs used to treat HIV). Virus particles with resistance to the drug continue to reproduce normally. Implement the `TreatedPatient` class.

Hint: `reproduce` function child resistances

If you are really unsure about how to think about what each child resistances should be changed to, here is a different approach. If the probability `mutProb` is successful, the child resistance switches. Otherwise, the child resistance stays the same as the parent resistance.

**Note: If you want to use numpy arrays, you should add the following lines at the beginning of your code for the grader:**

```
import os
os.environ["OPENBLAS_NUM_THREADS"] = "1"
```

Then, do `import numpy as np` and use `np.METHOD_NAME` in your code.

```
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3 # Part B: Problem 4: TreatedPatient Class
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5 # We also need a representation for a patient that accounts for the use of drug treatments and manages a
6 # instances. For this, we introduce the TreatedPatient class, which is a subclass of Patient. TreatedPati
7 # methods in ResistantVirus and maintain the list of drugs that are administered to the patient.
8
9 # Drugs are given to the patient using the TreatedPatient class's addPrescription() method. What happens
10 # drugs we consider do not directly kill virus particles lacking resistance to the drug, but prevent thos
11 # reproducing (much like actual drugs used to treat HIV). Virus particles with resistance to the drug cor
12 # Implement the TreatedPatient class.
13
14 # Hint: reproduce function child resistances
15
```

Press ESC then TAB or click outside of the code editor to exit

Correct

## Test results

CORRECT

[See full output](#)

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Calculator

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