PROBLEM:

Write a Python script to list all EC2 instances that belong to an AWS account. The script will take an optional parameter to specify the instance type and when provided, will list all instances of that particular type. When the parameter is ignored, then the script lists all EC2 instances across all types. It is okay to use external libraries (such as Boto) as part of the Python script.

E.g.

>> python list_instances.py

Instance #1, t2.small
Instance #2, t2.small
Instance #3, t2.medium
Instance #4, t2.medium
Instance #5, t2.large

>> python list_instances.py 't2.medium'

Instance #3, t2.medium
Instance #4, t2.medium

Instructions while submitting the solution:

1. Provide an Ansible playbook to bring up a new EC2 instance with all pre-requisites to run the Python script
2. Create a new Github repository with the Python script and the Ansible playbook
3. Provide a README file with instructions to run the playbook as well as to run the Python script locally. Please include any assumptions about the environment as part of this document.