Quiz Sample

Please show your work.

1. X is a random variable, where X follows a Bernoulli distribution with success probability p $Bernoulli(p)$. Find $E(X + X)$ and $Var(X + 10)$

2. X_1 and X_2 are independent random variables, and both of them follows exponential distribution with parameter 2. Find $Var(\frac{X_1+X_2}{2})$

3. In python, if I run the following code what is the output?

```python
counter = 0
for i in [1,2,4] :
    counter += 1

print(counter)
```