1. Give three examples of random variables from your daily life
2. State the law of large number in one sentence
3. Suppose we are rolling two balanced dies. Let X be the sum on the uppermost faces of the two dies. Find the mean and variance of X.
4. Let X=(2,3,4,2,3,4,5,6,7,6,8) and Y=(4,6,2,3,7,8,5,4,5,6,9) . Suppose we are doing the regression Y=a+bX+e. Find a hat and b hat. Also give an interpretation of e , b and a.
5. Let X=(2,4,3,4,5,6,7,8,4,6,0) Y=(3,6,2,3,4,5,6,,9,1,2) and Z=(4,6,3,4,5,6,7,8,3,2,1)

Suppose we are doing the regression Y=a+b+X+cZ+e. Find ahat, and bhat and a.

1. State the meaning of “omitted variable bias” in one sentence. What is its implication? Give one example.
2. What is an instrumental variable? When do we use it?