

**ECON2070**  
**TUTORIAL 1**

**Question 1.** Alice can either go to University X or University Y, both of which are located in her hometown. Alternatively, she can start working and gain some working experience. She is not very sure of her ability, though. There are two states of the world: that she is school smart, or that she is street smart. Alice's state-contingent payoffs are as follows:

	School Smart	Street Smart
Univ. X	10	2
Univ. Y	7	5
Work	0	8

- (a) Does Alice have any (strongly or weakly) dominant choice?
- (b) Does Alice have any (strongly or weakly) dominated choice(s)?
- (c) Suppose Alice assigns probability 0.4 to her being School Smart, and probability 0.6 to her being Street Smart. Calculate the expected utility from each of her choices. Which choice will she pick?
- (d) Now let  $p$  be the probability Alice assigns to her being Street Smart. Compute Alice's expected utility from each of her choices as a function of  $p$ .
- (e) Find the range of values  $p$  for which each choice of Alice is an expected utility maximizer. [Hint: It may help you to plot the expected utility from each of Alice's choices as a function of  $p$  in the same graph with  $p$  on the horizontal axis and expected utility on the vertical axis.]

**Question 2.** Alice’s friend, Bob, faces the same choices as Alice. Bob’s state-contingent payoffs are as follows:

		School Smart	Street Smart
Univ. X		10	2
Univ. Y		4	3
Work		0	8

- (a) Does Bob have a dominant or a dominated strategy?
- (b) Let  $p$  be the probability Bob assigns to him being Street Smart. Compute Bob’s expected utility from each of his choices as a function of  $p$ .
- (c) For what values of  $p$  is the choice “Univ. Y” an expected utility maximizer?
- (d) Consider the following choice for Bob: He will flip a fair coin. If the coin comes up head he will enrol in Univ. X. If the coin comes up tail he will work. Add a row in Bob’s payoff table above for this choice. (For instance, if he is School Smart, then with probability half he will get 10 and probability half he will get 0.) Calculate the expected payoff from this and enter in the relevant cell.
- (e) Look at the table after you have added the new row. Does Bob have a dominated strategy now?