

Student Examples: Conditionals, “Only If,” Chain Arguments
Engl 7, Fall 2006

(Remember that I do these quickly, and there may be errors, so ask if something doesn't seem right to you.)

1. If North Korea detonates a nuclear bomb, the world will respond with sanctions. North Korea detonates a nuclear bomb. What can you conclude?
2. If Kerry goes, then Jill will go too. Kerry doesn't go. What can you conclude?
3. If the UN doesn't take action in Darfur, thousands of people will die and hundreds of thousands will be displaced. The UN takes action in Darfur. What can you conclude?
4. If the UN doesn't take action in Darfur, thousands of people will die and hundreds of thousands will be displaced. Thousands of people don't die and hundreds of thousands aren't displaced. What can you conclude?
5. If Leonardo moves to Watts, LA, he will join a gang. Leonardo joins a gang. What can you conclude?
6. Dan will work on the house only if he gets paid. Dan is paid. What can you conclude?
7. North Korea will stop developing nukes if only the U.S. ensures security and offers billions of dollars in aid. The U.S. offers billions in aid. What can you conclude?
8. Danny DeVito gets a job in a movie only if the director decides he wants an Italian guy or a short guy. Danny DeVito does not get a job. What can you conclude?
9. Only if the A's win their next 3 games can they go to the playoffs. The A's win their next 3 games. What can you conclude?
10. If you punch me, then I'll punch you. You punch me. Therefore, I'll punch you.
11. You don't eat whenever you're sad. You're eating. So, you're not sad.
12. I have time to take a shower when I wake up early. I have time to take a shower. Therefore, I have time to take a shower.
13. If you come over today, we'll watch a movie and play a board game. We do not watch a movie. So you didn't come over.
14. I eat pizza whenever I watch football or watch basketball. I'm watching football. So, I must be eating pizza.
15. I'll go with you only if you pay for me. I'll go with you. So, you'll pay for me.
16. Don't come here unless you have a good reason to. You don't have a good reason. So don't come.
17. Unless it rains today, I won't bring an umbrella. I'm bringing an umbrella. So, it'll rain today.
18. The Titans will win only if Vince Young plays well. Vince Young played well. So the Titans won.
19. Dan will pass the midterm only if he studies. Dan did not study. Therefore he will not pass the midterm.
20. She will go to the movies with me only if I pay. I paid. Therefore she went to the movies with me.
21. I have breakfast in the morning only if I wake up on time. I woke up late. So I did not eat breakfast.
22. You can go to traffic school only if it's been 18 months since your last ticket. It has not been 18 months since my last ticket. Therefore I can not go to traffic school.
23. The ball will fall unless I catch it. The ball fell. Therefore I did not catch it.
24. You can only buy a handgun if you are 21 years old. Chris bought a handgun. So he is 21 years old.
25. John can not donate blood unless it has been at least two months since his last donation. It has been three months since his last donation. So he can donate more blood.
26. If I am lactose intolerant and I drink milk, I will be sick. I am sick, therefore I drank milk.
27. If Jamie studies for her test, she will pass. Jamie studied for her test, so she passed.
28. If I drink coffee, I will stay up all night. I stayed up all night, therefore I drank coffee.
29. If my cat eats dog food, she will throw up. She threw up all over my rug, so she ate the dog food.
30. Don't complain about the government, unless you voted. You are not a voter, so you can't complain about the government.
31. Animal cruelty will end only if people become aware of the shocking truths. People are not aware of the shocking truths, so animal cruelty will not end.
32. You will get several wrinkles at an early age, unless you put sunscreen on every day. You put sunscreen on every day, so you will not get several wrinkles at an early age.
33. Poverty will lessen in third world countries only if education improves. Education improves, so poverty will lessen in third world countries.
34. You will have friends only if you shower! You have friends, so you shower!
35. Only if the banana is brown, it is not good. The banana is good, so it must not be brown.
36. Whenever the dog smells, it needs a bath. The dog does not need a bath, so it must not smell.
37. Only if I do my homework, I will pass the class. I did not do my homework, so I will not pass the class.
38. Whenever I spend too much money, I am not able to pay for school. I paid for school, so I must have not spent too much money.
39. Only if it is raining, I will not go jogging. It did not rain, so I went jogging.
40. I'll bring a jacket only if it's cold. It is cold therefore I'll bring a jacket.
41. I will watch the game only if John is playing. John didn't play; therefore I didn't watch the game.
42. I will go to dinner only if Lisa and Jerry comes. Jerry came, therefore I went to dinner.

43. Millie will cook only if it's Richard's birthday. Millie didn't cook; therefore it's not Richard's birthday.
44. I'll pass the test only if I study and go to class. I didn't study and missed the class; therefore I didn't pass the test.
45. Only if I get my paycheck will I be able to pay my bills. I was able to pay my bills; therefore I got my paycheck.
46. She is not taken only if she's single. She is not single therefore she is taken.
47. He missed the class only if he woke up late or missed the bus. He missed the bus therefore he missed the class.
48. Don and Mimi will go out only if they have money. Don went out therefore they have money.
49. He will drive only if he doesn't have to use his car. He used his car therefore he didn't drive.
50. If I wear a superhero cape, then I can fly. I wear a superhero cape. Therefore, I can fly.
51. If I join the circus, then I will be a juggler. I am a juggler. Therefore, I joined the circus.
52. If I move to Paris, then I will drink coffee. But I do not move to Paris. Therefore, I will not drink coffee
53. If I eat a lot of green MM's, then my face will turn green. My face is not green. Therefore, I did not eat a lot of green MM's.
54. If it is sunny, then I am sad. It is sunny. Therefore, I am sad.
55. I will only do my homework if you give me a good grade on it. I did my homework. Therefore, you gave me a good grade.
56. Unless I speed, I will not get a ticket. I sped, so I got a ticket.
57. If a man gets married, he may only marry a woman. A man was married, so he must have married a woman.
58. I will not rest unless the American people are safe. The American people are safe. Therefore, I rested.
59. Only if we stay in Iraq will we win the war. We stayed in Iraq, so we won the war.
60. If I read the entire chapter, I will be tired. I am tired. So what?
61. If you wait until Wednesday night to study, you will flunk the exam. You did not flunk the exam, so you did not wait until Wednesday night to study.
62. If we wake up early, we will finish our work and watch the news. We watched the news, so we got up early.
63. If I leave early or beat the traffic, I will arrive on time. I beat the traffic, so I arrived on time.
64. If I study hard I am going to well on my test. I studied hard, so I'm going to do well.
65. If I don't wash my dog, he will be dirty and smelly. My dog is not dirty therefore I washed my dog.
66. He is going to mow the lawn when he is done watching television. He is mowing the lawn so he is done watching TV.
67. When I'm done shopping I get hungry and tired. I am hungry so I must have gone shopping.
68. I will go to the movies if I ever finish my homework. I finished my homework So I am going to the movies.
69. I eat tomatoes only if I'm eating a sandwich. I'm not eating a sandwich so I won't be eating tomatoes.
70. No one will like me unless I win the race. I didn't win the race, so no one likes me.
71. I would be happy if only my dog would come home. I am happy, so my dog must have come home.
72. I will love my boyfriend only if he buys me things. He bought me things so I love him.
73. If there aren't any problems, then I can get to work on time. But today I did not get to work on time. So a problem occurred.
74. I will only go to the mall if you buy me something. I went to the mall, therefore you bought me something.
75. You will only pass the test if you study. You did not study, therefore you did not pass the test.
76. Only if I eat I won't get a headache. I ate; therefore, I did not get a headache.
77. If tired then sleep. Slept, so I was tired.
78. If hungry then I eat. Not hungry so I didn't eat.
79. If speed then get pulled over. Got pulled over so I sped.
80. If pass then graduate. Graduate so I must have passed.
81. If I eat too much then I get sick. I got sick, therefore I must have eaten a lot.
82. Don't wear a hat in the courtroom unless the judge gives you permission. So I didn't wear a hat.
83. You may eat chocolate only if you brush your teeth afterwards. You ate chocolate, so you brushed your teeth.
84. Don't drink alcohol tonight unless there is a sober driver to take you home. But there is a sober driver, so you can get smashed!
85. I would enjoy going to school more if only parking wasn't such a problem. And parking isn't a problem, so I enjoy going more.
86. I will not gain weight unless I eat fast food, and I didn't gain weight, so I didn't eat fast food.
87. If I smoke cigarettes, then I will die. I don't smoke. Therefore, I will not die.
88. If I drive a Mercedes, then I'm rich. I drive a 2006 CL55. Therefore, I'm rich.
89. If I wear makeup, then I will be pretty. I'm not pretty. Therefore, I don't wear makeup.
90. If I eat candy, then I will get cavities. I don't candy. Therefore, I will not get cavities.

Chain Arguments

91. If I am good, I will go to Marine World. Whenever I go to Marine World, I see the Dolphins. I will see the Dolphins, if it is sunny outside. What can you conclude if (a) I am good? (b) If it's not sunny outside?
92. If I had a car, then I would not take the bus. If I wouldn't take the bus, then I could leave at my own time. If I could leave at my own time, then it would be faster. I have a car, so I leave at my own time and I get there faster.
93. If I eat healthy food, then I don't get sick. If I don't get sick, then I am happy. I eat healthy food, therefore, I am happy.

94. If John steals, some day, he will be caught. If John is caught, he will have a bad record. John does not have a bad record, so he does not steal.
95. If you are a man, then you speak through your actions. If you speak through your actions, many people will not understand you. Many people understand you; therefore you are not a man.
96. If you start doing your essay early, you finish your essay early. If you finish your essay early, you will not worry about the due day. You don't start doing your essay early, so you will worry about the due day.
97. If you go to school, you are educated. You are educated only if there is some use for you. There is some use for you, therefore you go to school.
98. If I exercise, then I am in shape. I am in shape only if I am strong. I am strong, therefore I exercise.
99. If I am tired, then I rest. I rest only if I finish my daily tasks. I don't finish my daily tasks; therefore, I am not tired.
100. If I buy a brand new car, my savings are gone. My savings are gone only if I have trouble with paying rent. I don't have trouble with paying rent, so I didn't buy a brand new car.
101. If one really studies, one must question. If one does not have a deep understanding, then one does not question. One has a deep understanding; therefore one really studies.
102. If I procrastinate, I will not have enough time to study. If I do not have enough time to study, I will flunk the test. If I flunk the test, I will fail the class. If I fail the class, I will not graduate from college. If I do not graduate from college, I will not get a job. If I do not get a job, I will not earn money. If I do not earn money, I cannot purchase a house. I did not earn money, so what can you conclude?
103. If I work a lot of hours, I will earn a lot of money. If I earn a lot of money, I can save it in the bank. If I save my money in the bank, then I can buy a car. And I saved my money in the bank, so what can you conclude?
104. When I take ballet, my Achilles tendon hurts. After my Achilles tendon hurts, I ice it. After I ice it, it feels better. And it feels better, so what can you conclude?
105. If you like me, then I like you. If I like you, then you love me. If you love me, then I love you. You like me, so what can you conclude?
106. If you went out on Friday night, then you'd have spent all your money. And if you spent all your money, then you wouldn't be able to buy my gift. And if you weren't able to buy my gift, you wouldn't have showed up at my party. You are at my party, so what can I conclude?
107. If I run then I will be healthy. If I am healthy then I will live longer and if I live longer then I will be happy. I am healthy so I will live longer and be happy.

Answer Key

1. The world will respond with sanctions. Valid, affirming the antecedent (VB).
2. Invalid, negating the antecedent (VB).
3. Invalid, negating the antecedent (VB).
4. The UN takes action. Valid, negating the antecedent (VB).
5. Invalid, affirming the consequent (VB).
6. Invalid, affirming the consequent (VB).
7. Invalid, affirming the consequent (VB).
8. Invalid, negating the antecedent (VB).
9. Invalid, affirming the consequent (VB).
10. VALID. Affirming the antecedent (DU).
11. VALID. Negating the consequent (DU).
12. INVALID. Affirming the consequent (DU).
13. VALID. Negating the consequent (DU).
14. VALID. Affirming the antecedent (DU).
15. VALID. Affirming the antecedent (DU).
16. VALID. Affirming the antecedent. The conditional would be, "If you don't have a good reason, then don't come" (DU)
17. VALID. Negating the consequent. The conditional would be, "If it doesn't rain today, then I won't bring an umbrella" (DU).
18. Invalid, affirming the consequent (MM).
19. Valid, negating the consequent (MM)..
20. Invalid, affirming the consequent (MM).
21. Valid, negating the consequent (MM).
22. Valid, negating the consequent (MM)..
23. Invalid, affirming the consequent. The conditional would be, "If not caught, then fall" (MM).
24. Valid, affirming the antecedent (MM).
25. Valid, affirming the antecedent. The conditional would be, "If at least two months, then can donate" (MM).
26. Invalid: affirming the consequent (AF).
27. Valid: affirming the antecedent (AF).
28. Invalid: affirming the consequent (AF).
29. Invalid: affirming the consequent (AF).
30. Valid: affirming the antecedent. The conditional would be, "If you didn't vote, then you can't complain" (AF).
31. Valid: negating the consequent (AF).
32. Invalid: negating the antecedent. The conditional would be, "If you don't put sunscreen on every day, then you will get wrinkles at an early age" (AF).
33. Invalid: affirming the consequent (AF).
34. Valid: affirming the antecedent (AF).
35. Valid: affirming the antecedent (AB).
36. Valid: negating the consequent (AB).
37. Valid: negating the consequent (AB).
38. Valid: negating the consequent (AB).
39. Valid: negating the consequent (AB).
40. Invalid, affirming the consequent (KM).
41. Valid: if P then Q; not Q; therefore not P (KM)
42. Invalid: affirming the consequent (KM).
43. Invalid: negating the antecedent (KM).
44. Valid: if P then Q; not Q; therefore not P (KM)
45. Valid: if P then Q; P; therefore Q (KM)..

46. Valid: modus tollens (KM).
47. Invalid: affirming the consequent (KM).
48. Invalid: affirming one part of an “and” is insufficient, so the antecedent is not affirmed here (KM)
49. Valid: modus tollens (KM).
50. This argument is valid because it is: If P (wear a superhero cape), then Q (I can fly). P (superhero cape). Therefore, Q (can fly) (AT).
51. Invalid, affirming the consequent (AT).
52. Invalid: negating the antecedent (AT).
53. Valid: negating the consequent (AT).
54. Valid: affirming the antecedent (AT).
55. Valid: affirming the antecedent (PW).
56. The conditional would be, “If I don’t speed, then I won’t get a ticket,” so this is invalid: negating the antecedent (PW).
57. The conditional would be, “Married, only if with a woman,” or “If with a woman, then married.” So this is invalid: affirming the consequent (PW).
58. The conditional would be, “If not safe, then not rest,” so this is invalid: negating the antecedent (PW).
59. Invalid: affirming the consequent (PW).
60. This is invalid. You cannot affirm Q (PW).
61. Valid: negating the consequent (PW).
62. Invalid: affirming the consequent (PW).
63. Valid: affirming the antecedent (PW).
64. Valid. P=study hard, Q=do well, affirming the antecedent (SS).
65. Invalid: P=don’t wash dog, Q=dirty and smelly. This tries to negate the consequent, which would be valid, but the rule for an “or” is “negate all” and only “dirty” is negated, so this doesn’t negate Q (SS).
66. Invalid, P=done watching TV, Q=mow the lawn. Affirming the consequent (SS).
67. Invalid, P= shopping, Q= hungry and tired. Affirming (part of) the consequent (SS).
68. Valid, P=finish homework, Q= go to the movies. Affirming the antecedent (SS).
69. Valid, P=I eat tomatoes, Q= if I’m eating a sandwich. Negating the consequent (SS).
70. Valid. The conditional would be “If I don’t win the race, then no one will like me.” So this is affirming the antecedent (SS).
71. Valid. P= be happy, Q= dog come home. Affirming the antecedent (SS).
72. Invalid. P=love my boyfriend, Q= buys me things. Affirming the consequent (SS).
73. Valid: negating the consequent (MC).
74. Valid. Affirming the antecedent. The conditional would be: “If I go to the mall, then you will buy me something” (MC).
75. Valid: negating the consequent. The conditional would be: If you pass the test, then you studied” (MC).
76. Invalid: affirming the consequent (MC).
77. Invalid: affirming the consequent. (MC).
78. Invalid: negating the antecedent (MC).
79. Invalid: affirming the consequent. (MC).
80. Invalid: affirming the consequent. (MC).
81. Invalid: affirming the consequent. (MC).
82. Valid. The conditional would be, “If the judge doesn’t give you permission, then do not wear a hat.” So the second premise must be “the judge didn’t give me permission” (CC).
83. Valid: affirming the antecedent (CC).
84. Invalid. The conditional would be, “If there is no sober driver, then don’t drink.” Negating the antecedent (CC).
85. Invalid: affirming the consequent (CC).
86. Invalid. The conditional would be, “If I don’t eat fast food, then I won’t gain weight.” So this is affirming the consequent (CC).
87. Invalid. Not Q, therefore not P (CC).
88. Valid: affirming the antecedent (CC).
89. Valid: negating the consequent (CC).
90. Invalid. Not Q, therefore not P (CC).
91. (a) I am good - We can affirm the antecedent "Q" (Go to Marine World), therefore we can affirm the consequent "R" (Saw the Dolphins) but we cannot affirm "S" that it is sunny outside.
(b) It's not sunny outside - This would be invalid (VB).
92. Valid (MC).
93. VALID: AFFIRMING THE ANTECEDENT (DL).
94. VALID: NEGATING THE CONSEQUENT (DL).
95. VALID: NEGATING THE CONSEQUENT (DL).
96. INVALID: NEGAING THE ANTECEDENT (DL).
97. INVALID: AFFIRMING THE CONSEQUENT (DL).
98. INVALID: AFFIRMING THE CONSEQUENT (DL).
99. VALID: NEGATING THE CONSEQUENT (DL).
100. VALID: NEGATING THE CONSEQUENT (DL).
101. INVALID: AFFIRMING THE CONSEQUENT (DL).
102. Because the final antecedent was affirmed, so we can conclude that I could not buy a house, but nothing else (PW).
103. Only that I can buy a car (AB).
104. “After I ice it, it feels better” is the same as “If I ice it, then it feels better,” so “it feels better” would be affirming the consequent, and there can be no valid conclusion. (AF).
105. I love you (DU). [You can also conclude “I like you” and “you love me.”]
106. You must have not gone out Friday night (DU). [I can also conclude “you were able to buy my gift,” and “you didn’t spend all your money.”]
107. Valid. P= run, Q= healthy, R=live longer, S= be happy. Affirming the antecedent (SS). [But we can’t conclude anything about whether I run.]