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CSSE373-02
Homework #4
CM:2229
4/3/14

1)

a) Friend 2, Friend 4

b) Friend 1, Friend 3, Friend 4

c) For part (a) I used the expression " Friend$5.friendsWith"
For part (b) I used the expression " {f:Friend|Friend$5 in f.friendsWith}"

d) True using the expression "Friend$5 in Friend$2.^friendsWith and Friend$4 in Friend$5.^friendsWith"

e) True using the expression "some f:Friend|f.^friendsWith = Friend

f) True using the expression "all f:Friend|f.^friendsWith = Friend

g) The expression " {f:Friend|f.^friendsWith = Friend}" evaluates to {Friend$0, Friend$1, Friend$2, Friend$3, Friend$4, Friend$5}

h) It shows this because Friend$5 is friends with all friends in the set transitively

2)

a) {IntTest$0->0}

b) The instance is saying the sum of numbers between -2 and 10 inclusive is equal to zero

c) Yes it fixed it because Alloy defaults to a scope of -8 to 8 but our number was beyond that so we had to tell Alloy to use an Int scop of 7 to be able to handle the numbers -64 to 64

d) x = {3} and y = {2}
Alloy is not very good for solving integer problems because it is limited by the bit-width