

Name _____ Email PID _____

Write natural, grammatical negations of the following two statements:

- I. If the pointer P is NULL, then dereferencing P will cause a segmentation fault.

Recall that the negation of "if P then Q" is "P and not Q". So, the negation of this statement would be:

The pointer P is NULL and dereferencing P will not cause a segmentation fault.

or

The pointer P is NULL but dereferencing P will not cause a segmentation fault.

- II. If Fred won the chess match, then Fred was rational or James was inattentive.

The same rule applies here, but the consequent is an "or" statement; so this is of the form "if P then Q or R".

The negation would be "P and not (Q or R)", but that's not in a good form. We also need to remember that "not (A or B)" is "not A and not B", whence the negation of the original is "P and not A and not B". So the negation would be:

Fred won the chess match, and Fred was not rational, and James was not inattentive.

A slightly cleaner version would be:

Fred won the chess match, even though Fred was irrational, and James was attentive.

Name _____ Email PID _____

Write natural, grammatical negations of the following two statements:

- I. If dereferencing the pointer P caused a segmentation fault, then P must have been NULL.

Recall that the negation of "if P then Q" is "P and not Q". So, the negation of this statement would be:

Dereferencing the point P caused a segmentation fault, and P was not NULL.

or

Dereferencing the point P caused a segmentation fault, even though P was not NULL.

- II. If James won the chess match, then Fred was inattentive and James was rational.

The same rule applies here, but the consequent is an "and" statement; so this is of the form "if P then Q and R".

The negation would be "P and not (Q and R)", but that's not in a good form. We also need to remember that "not (A and B)" is "not A or not B", whence the negation of the original is "P, and not A or not B". So the negation would be:

James won the chess match, and Fred was not inattentive or James was not rational.

A slightly cleaner version would be:

James won the chess match, even though Fred was attentive or James was irrational.