The following appeared as part of an article in a daily newspaper:

"The computerized on-board warning system that will be installed in commercial airlines will virtually solve the problem of midair plane collisions. One plane's warning system can receive signals from another's transponder - a radio set that signals a plane's course - in order to determine the likelihood of a collision and recommend evasive action."

Discuss how well reasoned you find this argument. In your discussion, be sure to analyze the line of reasoning and the use of evidence in the argument. For example, you may need to consider what questionable assumptions underlie the thinking and what alternative explanations or counterexamples might weaken the conclusion. You can also discuss what sort of evidence would strengthen or refute the argument, what changes in the argument would make it more logically sound, and what, if anything, would help you better evaluate its conclusion.

Arguments:

1. Warning system installed in commercial airlines will solve the problem of midair plan collisions.
2. Explanation: receive signals from another’s transponder through radio signals a plane’s course, determine the likelihood of a collision and recommend evasive action

Assumption:

1. There will always be safe course to avoid collisions for all the planes in midair.
2. The recommended evasive action will always work and be able to be adopted by pilots

Over-representation:

Commercial airlines < Civil airlines

Over-simplification:

Course is the only cause of midair collision.

Other factors:

Bad weather restricted plane’s course

Human errors - Miscommunication with pilots

Writing:

The argument claims that installing the computerized on-board warning system in commercial airlines will solve the problem of midair plane collisions. The argument is supported by an explanation that the courses of each plan will be signalled through a radio set and the warning system can determine the likelihood of a collision and recommend evasive action.

The warning system described may help improve the problem of collision but hardly solve it. The claim is poorly reasoned as it based on (1) an oversimplification that the potential clashes on planes’ courses are the only cause of collision, (2) flawed assumptions that the recommend evasive actions are absolutely safe and feasible in any condition, and will be correctly executed, and (3) overrepresentation that only commercial airlines fly planes with the problem of collision.

Firstly, in reality, pilots will always submit flight plan and communicate closely with the air traffic control tower of the area to confirm that their plane is flying on a safe course. The advantage of clearing for recommended safe flight course of the warning system is already taken place but accidents can still occur due to various reasons, such as malfunctioning radar scanning or miscommunication with pilots and traffic controllers. These causes are unavoidable even with the warning system installed.

Secondly, the real-time air traffic can be much more complicated than a system can be simulated. For example, some planes can only fly in their only course subjected to bad weather or fuel condition. Following a recommend evasive action by a warning system calculated purely on the likelihood of a collision could be dangerous if the suggested course is to fly into a thunderstorm.

Finally, the argument claims that an installation is in commercial airlines but there are more midair transports, eg. civil airlines. Those air transportations may also share the problem of midair plane collisions. The argument based on an assumption, that commercial airlines are the only air transportation to have the collision problems or the only flyers in midair, is flawed.

In conclusion, the argument failed to provide any explanation on the causes of collision and how those can be avoided or solved by the warning system. The reasoning is further weakened as the argument failed to consider the unavoidable cause, eg. bad weathers, or backfire of the system itself, eg. malfunctioning. Thus, the argument’s claim is not justified.