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# RADAR Application using Cross-Correlation in MATLAB

Radio detection and ranging is a wonderful and very useful device in this modern era, mainly used in military. In this project, its working has been described by using the concept of correlation mainly cross-correlation in the MATLAB software.

## Introduction:

RADAR is used to detect airplanes, aircrafts and other automobile bodies related to military. Its can be described through signals transmitting and receiving. When a signal is transmitted and when a signal is received, then for finding the similarity it would be observed that the received signal is basically the transmitted signal in which noise has been added and the signal is also delayed. By using correlation concept, this can be found.

## Working:

In this project, all the working is following:

- First of all, a signal is defined that can be known as transmitted signal.
- Then, another signal is defined which is basically the delayed signal w.r.t distance.
- After that, a noise is added to signal that can be known as received signal.
- Finally, both the signals can be cross correlated.

## Result:

The output would be the similarity that could be seen after implementation, defining that both the signals are similar and in other words the target or interrupter is found in the area of consideration.