*“Embedded System”*

***Introduction:***

Embedded system is a combination of computer hardware and software and they are designed to perform specific tasks.  
They acquire the data from the environment and send it to their controller and then process it and actuators perform the task.  
In embedded system complexity is hidden from the user.   
Two embedded system examples:

* HVAC (Heating,Ventilation and Air conditioning).
* ABS (Anti-locking brake system).

***Performance:***  
HVAC system are used to maintain the temperature of a particular area where it is installed like in a office,room and in an any hall etc.  
For example : So different temperature sensors,humidity sensors are installed in a building they are recording the temperature continuously from the environment so the temperature is now send to the controller then controller access the temperature and make decisions like where to improve the temperature or where to maintain or to down the temperature.  
  
ABS system are used to stop the car not by jerk but slowly because if the car stops suddenly there are more chances that the car may slide or roll or drift.so to avoid drift ABS system introduced. Different sensors are installed with our car wheels which are continuously monitoring the speed of vehicle and speed of wheels and sending information to the controller. If a car wants to stop then controller manages the speed of wheels and speed of vehicle and then controller sends information to hydraulic pressure pumps to release the pressure. The hydraulic pressure pumps are working as actuators and now the car will stop perfectly.

In ABS, sensors are installed and are receiving data or electrical signals and sending to the controller then controller process it and orders actuators to perform  the task.  
  
In HVAC,temperature sensors input the data and send to controller and actuators perform the task.