Code Explanation:

1- The code starts by including the necessary header file and defining function prototypes for delay and GPIO initialization.
2- The main function initializes the necessary GPIO pins and enters an infinite loop.
3- In each iteration of the loop, the code reads the distance using the readDistance function.
4- If the measured distance is less than or equal to 10 cm, the fan is turned off by setting the appropriate bits of GPIOB->DATA to 0.
5- If the measured distance is greater than 10 cm, the fan is turned on by setting the appropriate bits of GPIOB->DATA to 0x0E.
6- The delayMs function is a simple delay function used for creating a delay of a specified number of milliseconds.
7- The initGPIOF function initializes the GPIO pins for the ultrasonic sensor. It sets the trigger pin (PF1) as an output and the echo pin (PF2) as an input.
8- The readDistance function measures the distance by sending a trigger pulse, measuring the time it takes for the echo pulse to be received, and converting the time to distance.