**SMART PET FEEDER USING IOT**

```
#include <Wire.h>
#include <RTClib.h>
#include <Servo.h>
RTC_DS3231 rtc;
Servo feederServo;
const int servoPin = 9;
const int buttonPin = 2;
bool fedMorning = false;
bool fedEvening = false;
void setup() {
 Serial.begin(9600);
 feederServo.attach(servoPin);
 pinMode(buttonPin, INPUT_PULLUP);
 if (!rtc.begin()) {
  Serial.println("Couldn't find RTC!");
  while (1);
 }
 if (rtc.lostPower()) {
  rtc.adjust(DateTime(F(__DATE__), F(__TIME__))); // Set RTC to compile time
 }
 feederServo.write(0); // Set initial servo position
}
void loop() {
 DateTime now = rtc.now();
 // Feed at 8:00 AM
 if (now.hour() == 8 && now.minute() == 0 && !fedMorning) {
  dispenseFood();
  fedMorning = true;
 }
```

```
  // Feed at 6:00 PM
  if (now.hour() == 18 && now.minute() == 0 && !fedEvening) {
    dispenseFood();
    fedEvening = true;
  }
  // Reset flags at midnight
  if (now.hour() == 0 && now.minute() == 0) {
    fedMorning = false;
    fedEvening = false;
  }

// Manual feed if button is pressed
  if (digitalRead(buttonPin) == LOW) {
    dispenseFood();
    delay(1000); // debounce
    while (digitalRead(buttonPin) == LOW); // wait until button released
  }
 delay(1000); // loop every second
}
void dispenseFood() {
  Serial.println("Dispensing food...");
  feederServo.write(90);  // rotate to open
  delay(1000);          // wait 1 second
  feederServo.write(0);   // rotate back to close
  delay(1000);
}
```