

T\_INFO1\_BO : Fourche Optique

Partie 1

**Diagramme de changement d’état**

BPA

BPA

BPA

Etat Initial

**Tableau des états**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | LEDR | LEDV | LEDJ | Diode Infra. | Récepteur |
| WAIT | OFF | OFF | OFF | OFF | X |
| START | OFF | ON | X | ON | X |
| STOP | ON | OFF | OFF | OFF | X |

**Programmation**

**//Variables globales :**

int etat;

int oldEtatBP;

**//Constantes :**

const int WAIT = 0;

const int START = 1;

const int STOP = 2;

const int pinBP = 3;

const int pinRecepteur = 4;

const int pinDiode = 5;

const int pinLEDR = 6;

const int pinLEDV = 7;

const int pinLEDJ = 8;

**void setup() {**

pinMode(pinBP, INPUT);

pinMode(pinRecepteur, INPUT);

pinMode(pinLEDR, OUTPUT);

pinMode(pinLEDV, OUTPUT);

pinMode(pinLEDJ, OUTPUT);

pinMode(pinDiode, OUTPUT);

etat = WAIT;

oldEtatBP = LOW;

digitalWrite(pinLEDR, LOW);

digitalWrite(pinLEDV, LOW);

digitalWrite(pinLEDJ, LOW);

digitalWrite(pinDiode, LOW);

}

**void loop() {**

int etatBP = digitalRead(pinBP);

if(oldEtatBP == LOW && etatBP == HIGH){

if (etat == WAIT || etat == STOP){

etat = START;

digitalWrite(pinLEDV, HIGH);

digitalWrite(pinLEDR, LOW);

digitalWrite(pinDiode, HIGH);

}

else {

etat = STOP;

digitalWrite(pinLEDV, LOW);

digitalWrite(pinLEDR, HIGH);

digitalWrite(pinDiode, LOW);

digitalWrite(pinLEDJ, LOW);

}

}

if (etat == START){

digitalWrite(pinLEDJ, digitalRead(pinRecepteur));

}

oldEtatBP = etatBP;

delay(100);

}