

```

// On définit les variables pour chaque broche
const int a = 2; //La broche 2 est le segment a      - a -
const int b = 3; //La broche 3 est le segment b      f      b
const int c = 4; //La broche 4 est le segment c      | - g - |
const int d = 5; //La broche 5 est le segment d      e
c
const int e = 6; //La broche 6 est le segment e      - d -
const int g = 7; //La broche 7 est le segment g
const int f = 8; //La broche 8 est le segment f
const int relais = 10; //La broche 10 est le relais
const int V = A0; //La broche A0 est l'entrée analogique V
int Van; //Valeur analogique
float Tension; //Valeur analogique convertie en tension

void setup() {
// initialiser le digital pin comme une sortie
pinMode(a, OUTPUT);
pinMode(b, OUTPUT);
pinMode(c, OUTPUT);
pinMode(d, OUTPUT);
pinMode(e, OUTPUT);

```

```
pinMode(f, OUTPUT);  
pinMode(g, OUTPUT);  
pinMode(relais, OUTPUT);  
Serial.begin(9600); //Initialisation communication moniteur série  
}
```

```
void zero() {  
    digitalWrite(a, HIGH); // allume le segment  
    digitalWrite(b, HIGH);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, HIGH);  
    digitalWrite(e, HIGH);  
    digitalWrite(f, HIGH);  
    digitalWrite(g, LOW); // éteint le segment  
}
```

```
void un() {  
    digitalWrite(a, LOW);  
    digitalWrite(b, HIGH);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, LOW);
```

```
digitalWrite(e, LOW);  
digitalWrite(f, LOW);  
digitalWrite(g, LOW);  
}
```

```
void deux() {  
  digitalWrite(a, HIGH);  
  digitalWrite(b, HIGH);  
  digitalWrite(c, LOW);  
  digitalWrite(d, HIGH);  
  digitalWrite(e, HIGH);  
  digitalWrite(f, LOW);  
  digitalWrite(g, HIGH);  
}
```

```
void trois() {  
  digitalWrite(a, HIGH);  
  digitalWrite(b, HIGH);  
  digitalWrite(c, HIGH);  
  digitalWrite(d, HIGH);  
  digitalWrite(e, LOW);  
}
```

```
digitalWrite(f, LOW);  
digitalWrite(g, HIGH);  
}
```

```
void quatre() {  
    digitalWrite(a, LOW);  
    digitalWrite(b, HIGH);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, LOW);  
    digitalWrite(e, LOW);  
    digitalWrite(f, HIGH);  
    digitalWrite(g, HIGH);  
}
```

```
void cinq() {  
    digitalWrite(a, HIGH);  
    digitalWrite(b, LOW);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, HIGH);  
    digitalWrite(e, LOW);  
    digitalWrite(f, HIGH);  
}
```

```
digitalWrite(g, HIGH);  
}
```

```
void six() {  
    digitalWrite(a, LOW);  
    digitalWrite(b, LOW);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, HIGH);  
    digitalWrite(e, HIGH);  
    digitalWrite(f, HIGH);  
    digitalWrite(g, HIGH);  
}
```

```
void sept() {  
    digitalWrite(a, HIGH);  
    digitalWrite(b, HIGH);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, LOW);  
    digitalWrite(e, LOW);  
    digitalWrite(f, LOW);  
    digitalWrite(g, LOW);  
}
```

```
}
```

```
void huit() {  
    digitalWrite(a, HIGH);  
    digitalWrite(b, HIGH);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, HIGH);  
    digitalWrite(e, HIGH);  
    digitalWrite(f, HIGH);  
    digitalWrite(g, LOW);  
}
```

```
void neuf() {  
    digitalWrite(a, HIGH);  
    digitalWrite(b, HIGH);  
    digitalWrite(c, HIGH);  
    digitalWrite(d, LOW);  
    digitalWrite(e, LOW);  
    digitalWrite(f, HIGH);  
    digitalWrite(g, HIGH);  
}
```

```
void affiche() {
    if (Tension==0) {zero();}
    if (Tension==1) {un();}
    if (Tension==2) {deux();}
    if (Tension==3) {trois();}
    if (Tension==4) {quatre();}
    if (Tension==5) {cinq();}
    if (Tension==6) {six();}
    if (Tension==7) {sept();}
    if (Tension==8) {huit();}
    if (Tension==9) {neuf();}
}
```

```
void loop() {
debut:
    delay(1000);
    Van = analogRead(V);           //Lecture valeur
    Tension = Van * 5.0 / 1023;    //Conversion en tension
    Serial.print("Tension:");
    Serial.println(Tension);       //Affichage de la tension
}
```

```
if (Tension<1.2){ //Tension pile < 1,2V
  digitalWrite(a, LOW); //Affiche 'd' (défaut)
  digitalWrite(b, HIGH);
  digitalWrite(c, HIGH);
  digitalWrite(d, HIGH);
  digitalWrite(e, HIGH);
  digitalWrite(f, LOW);
  digitalWrite(g, HIGH);
  Serial.println("DEFAUT");
  digitalWrite(relais, LOW);
  goto debut;
}
if (Tension>1.7){ //Tension pile > 1,7V
  digitalWrite(a, HIGH); //Affiche 'F' (fin)
  digitalWrite(b, LOW);
  digitalWrite(c, LOW);
  digitalWrite(d, LOW);
  digitalWrite(e, HIGH);
  digitalWrite(f, HIGH);
  digitalWrite(g, HIGH);
  Serial.println("ARRET");
```



```
    digitalWrite(relais, LOW);  
    goto debut;  
}  
Tension=Tension-int(Tension); //Récupérer les décimales  
Tension=floor(10*Tension+0.5); //Valeur de la décimale arrondie  
    Serial.print("Décimale:");  
    Serial.println(Tension);  
affiche();  
    digitalWrite(relais, HIGH);  
}
```