LAMPIRAN

1. Program Arduino

==========INISIALISASI==========

```
#include<Wire.h>
#include<LiquidCrystal_I2C.h>

int footswitchcoag = 12;
int footswitchcut = 4;

int buzzercoag = 1;
int relaycoag = 2;
int relaycut = 8;
int buzzer = 13;

int dutycycle = 6;
int ftv = 10;

int frekwensicoag;
int frekwensicut;

int upcoag = 3;
int downcoag = 5;

int upcut = 9;
int downcut = 11;

int menucoag;
int menucut;
LiquidCrystal_I2C lcdcoag(0x25, 20, 4);
LiquidCrystal_I2C lcdcut(0x26, 20, 4);
```

==========SETTING AWAL==========

```
void setup() {
  pinMode(footswitchcoag, INPUT);
  pinMode(footswitchcut, INPUT);

  pinMode(upcoag, INPUT);
  pinMode(downcoag, INPUT);
  pinMode(upcut, INPUT);
  pinMode(downcut, INPUT);

  pinMode(relaycoag, OUTPUT);
  pinMode(relaycut, OUTPUT);

  pinMode(ftv, OUTPUT);
  pinMode(dutycycle, OUTPUT);
  pinMode(buzzer, OUTPUT);

  lcdcoag.begin();
  lcdcoag.backlight();
  lcdcoag.setCursor(0,0);
  lcdcoag.print("COAGULATION");
  lcdcoag.setCursor(1,1);
  lcdcoag.print("HIGH POWER");
  lcdcoag.setCursor(1,2);
  lcdcoag.print("MEDIUM POWER");
  lcdcoag.setCursor(1,3);
  lcdcoag.print("LOW POWER");

  lcdcut.begin();
  lcdcut.backlight();
  lcdcut.setCursor(0,0);
  lcdcut.print("CUTTING");
  lcdcut.setCursor(1,1);
  lcdcut.print("HIGH POWER");
```

```
  lcdcut.setCursor(1,2);
  lcdcut.print("MEDIUM POWER");
  lcdcut.setCursor(1,3);
  lcdcut.print("LOW POWER");

 }
```

====PEMILIHAN DAYA & LCD KARAKTER=====

```
 void loop()
 {
  upcoag = digitalRead(3);
  downcoag = digitalRead(5);

  if(upcoag == HIGH)
  {
   delay(200);
   menucoag++;
  }

  if(downcoag == HIGH)
  {
   delay(200);
   menucoag--;
  }

  if(menucoag < 1)
  {
   menucoag = 3;
  }

  if(menucoag > 3)
  {
   menucoag = 1;
  }
```

```
if(menucoag == 1)
{
  frekwensicoag = 900;
  lcdcoag.backlight();
  lcdcoag.setCursor(0,1);
  lcdcoag.print("~");
  lcdcoag.setCursor(0,2);
  lcdcoag.print(" ");
  lcdcoag.setCursor(0,3);
  lcdcoag.print(" ");
}

if(menucoag == 2)
{
  frekwensicoag = 450;
  lcdcoag.backlight();
  lcdcoag.setCursor(0,1);
  lcdcoag.print(" ");
  lcdcoag.setCursor(0,2);
  lcdcoag.print("~");
  lcdcoag.setCursor(0,3);
  lcdcoag.print(" ");
}

if(menucoag == 3)
{
  frekwensicoag = 300;
  lcdcoag.backlight();
  lcdcoag.setCursor(0,1);
  lcdcoag.print(" ");
  lcdcoag.setCursor(0,2);
  lcdcoag.print(" ");
  lcdcoag.setCursor(0,3);
```

```
  lcdcoag.print("~");
 }
{
 upcut = digitalRead(9);
 downcut = digitalRead(11);

 if(upcut == HIGH)
 {
  delay(200);
  menucut++;
 }

 if(downcut == HIGH)
 {
  delay(200);
  menucut--;
 }

 if(menucut < 1)
 {
  menucut = 3;
 }

 if(menucut > 3)
 {
  menucut = 1;
 }

 if(menucut == 1)
 {
  frekwensicut = 800;
  lcdcut.backlight();
  lcdcut.setCursor(0,1);
  lcdcut.print("~");
```

```
  lcdcut.setCursor(0,2);
  lcdcut.print(" ");
  lcdcut.setCursor(0,3);
  lcdcut.print(" ");
 }

 if(menucut == 2)
 {
  frekwensicut = 250;
  lcdcut.backlight();
  lcdcut.setCursor(0,1);
  lcdcut.print(" ");
  lcdcut.setCursor(0,2);
  lcdcut.print("~");
  lcdcut.setCursor(0,3);
  lcdcut.print(" ");
 }

 if(menucut == 3)
 {
  frekwensicut = 150;
  lcdcut.backlight();
  lcdcut.setCursor(0,1);
  lcdcut.print(" ");
  lcdcut.setCursor(0,2);
  lcdcut.print(" ");
  lcdcut.setCursor(0,3);
  lcdcut.print("~");
 }
}

==========KONTROL FOOTSWITCH=========

footswitchcoag = digitalRead(12);
footswitchcut = digitalRead(4);
```

```
 if(footswitchcut == HIGH)
 {
  digitalWrite(footswitchcoag, LOW);
  digitalWrite(relaycoag, HIGH);
  analogWrite(dutycycle, 0);
  digitalWrite(buzzer, HIGH);
  tone(ftv,frekwensicut);
 }

  else if(footswitchcoag == HIGH)
  {
  digitalWrite(footswitchcut, LOW);
  digitalWrite(relaycut, HIGH);
  analogWrite(dutycycle, 240);
  digitalWrite(buzzer, HIGH);
  tone(ftv, frekwensicoag);
  }
  else
  {
  digitalWrite(buzzer, LOW);
  analogWrite(dutycycle, 255);
  digitalWrite(relaycoag, LOW);
  digitalWrite(relaycut, LOW);
  noTone(ftv);



}
}
```