Lampiran A

Program

```
int leftSignal = 5;
int sensorKiri = 4;
int sensorKanan = 6;
int rightSignal = 3;
int stopSignal = 8;
int signalLow = 2;
int leftSwitch = 7;
int rightSwitch = 12;
int stopSwitch =4;
int leftLED = 9;
int rightLED = 11;
int x, y;
int mode = 0;
int DAY = 0;
int NIGHT = 1;

void setup() // run once, when the sketch starts
{

  pinMode(leftSignal, OUTPUT);
  pinMode(rightSignal, OUTPUT);
  pinMode(signalLow, OUTPUT);

  pinMode(sensorKiri, INPUT);
```

```
  digitalWrite(sensorKiri, HIGH);
  pinMode(sensorKanan, INPUT);
  digitalWrite(sensorKanan, HIGH);

  pinMode(leftSwitch, INPUT);
  digitalWrite(leftSwitch, HIGH);
  pinMode(rightSwitch, INPUT);
  digitalWrite(rightSwitch, HIGH);
  pinMode(stopSwitch, INPUT);
  digitalWrite(stopSwitch, HIGH);

  pinMode(leftLED, OUTPUT);
  pinMode(rightLED, OUTPUT);

  digitalWrite(signalLow, LOW);
}

void loop() // run over and over again
{

  checkLeft();
  checkSensorL();
  checkRight();
  checkSensorR();
  checkStop();
  if (mode == NIGHT)
   night();
```

```
 else
  day();

}

void checkStop()
{
  if (digitalRead(stopSwitch) == LOW){
    digitalWrite(stopSignal, HIGH);
}
    else {
    digitalWrite(stopSignal, LOW);
}
}

void checkSensorR()
{
  if (digitalRead(sensorKanan) == LOW){
    digitalWrite(rightLED, LOW);
    digitalWrite(rightSignal, LOW);
}
}
void checkSensorL()
{
  if (digitalRead(sensorKiri) == LOW){
    digitalWrite(leftLED, LOW);
    digitalWrite(leftSignal, LOW);
```

```
}
}

void checkLeft()
{
  if (digitalRead(leftSwitch) == LOW)
  {
    while (digitalRead(leftSwitch) == LOW)
    {
      if (digitalRead(rightSwitch) == LOW)
      {
        while (digitalRead(rightSwitch) == LOW | digitalRead(leftSwitch) == LOW);
        mode = 1-mode;
        return;
      }
    }

    leftTurn();
  }
}

void checkRight()
{
  if (digitalRead(rightSwitch) == LOW)
  {
    while (digitalRead(rightSwitch) == LOW)
    {
```

```
    if (digitalRead(leftSwitch) == LOW)
    {
      while (digitalRead(leftSwitch) == LOW | digitalRead(rightSwitch) == LOW);
      mode = 1-mode;
      return;
    }
   }

   rightTurn();
  }
}

void leftTurn()
{
  for (x=0;x<10;x++)
  {
   digitalWrite(leftSignal, HIGH);
   digitalWrite(leftLED, LOW);
   for(y=0;y<10;y++)
   {
    delay(30);
    if (digitalRead(leftSwitch) == LOW);
   }
   digitalWrite(leftSignal, LOW);
   digitalWrite(leftLED, HIGH);
   for(y=0;y<10;y++)
   {
```

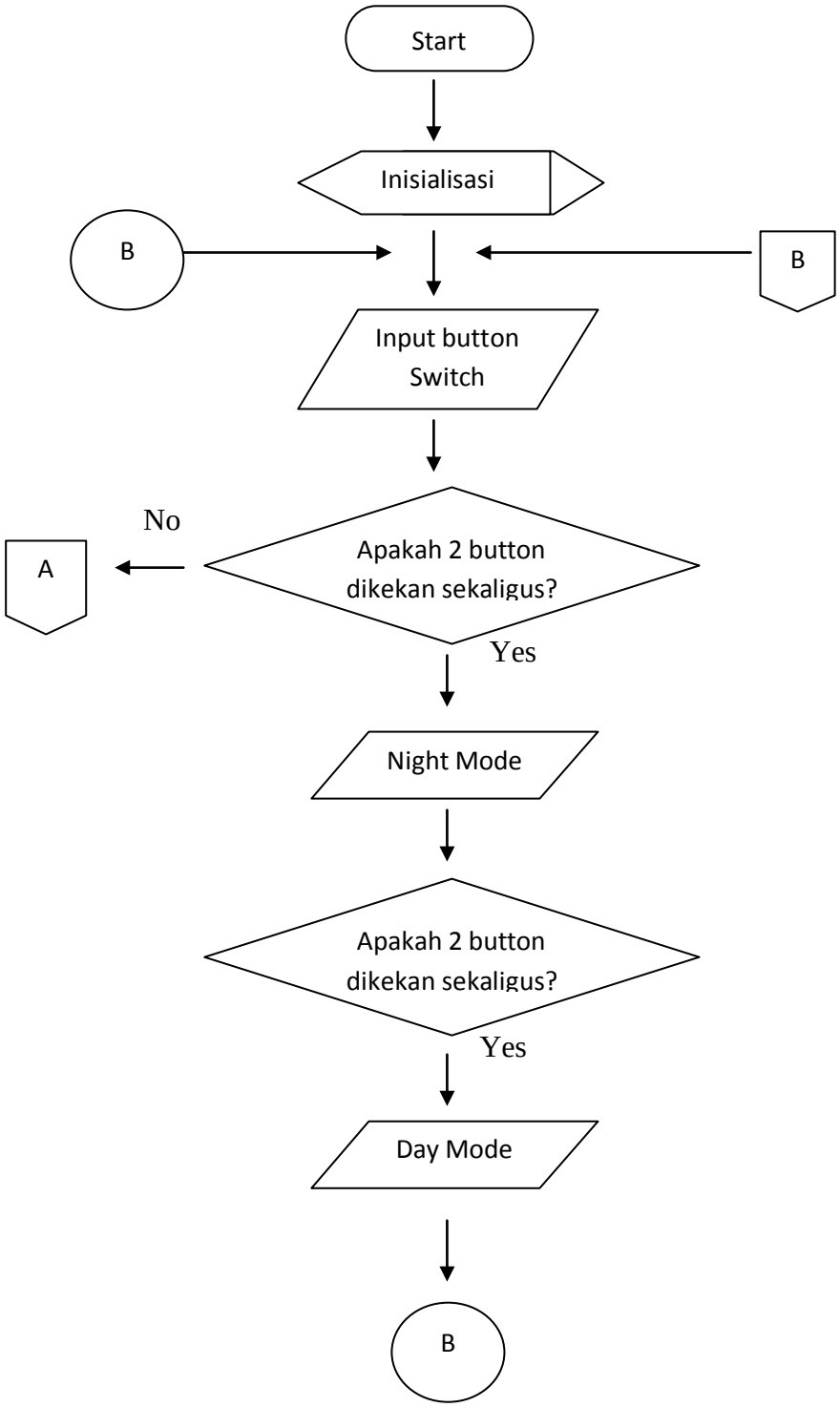
```
    delay(30);
   }
  }
  digitalWrite(leftSignal, HIGH);
}



void rightTurn()
{
  for (x=0;x<10;x++)
  {
   digitalWrite(rightSignal, HIGH);
   digitalWrite(rightLED, LOW);
   for(y=0;y<10;y++)
   {
    delay(30);
    if (digitalRead(rightSwitch) == LOW);
   }
   digitalWrite(rightSignal, LOW);
   digitalWrite(rightLED, HIGH);
   for(y=0;y<10;y++)
   {
    delay(30);
   }
  }
   digitalWrite(rightSignal, HIGH);
  }
```

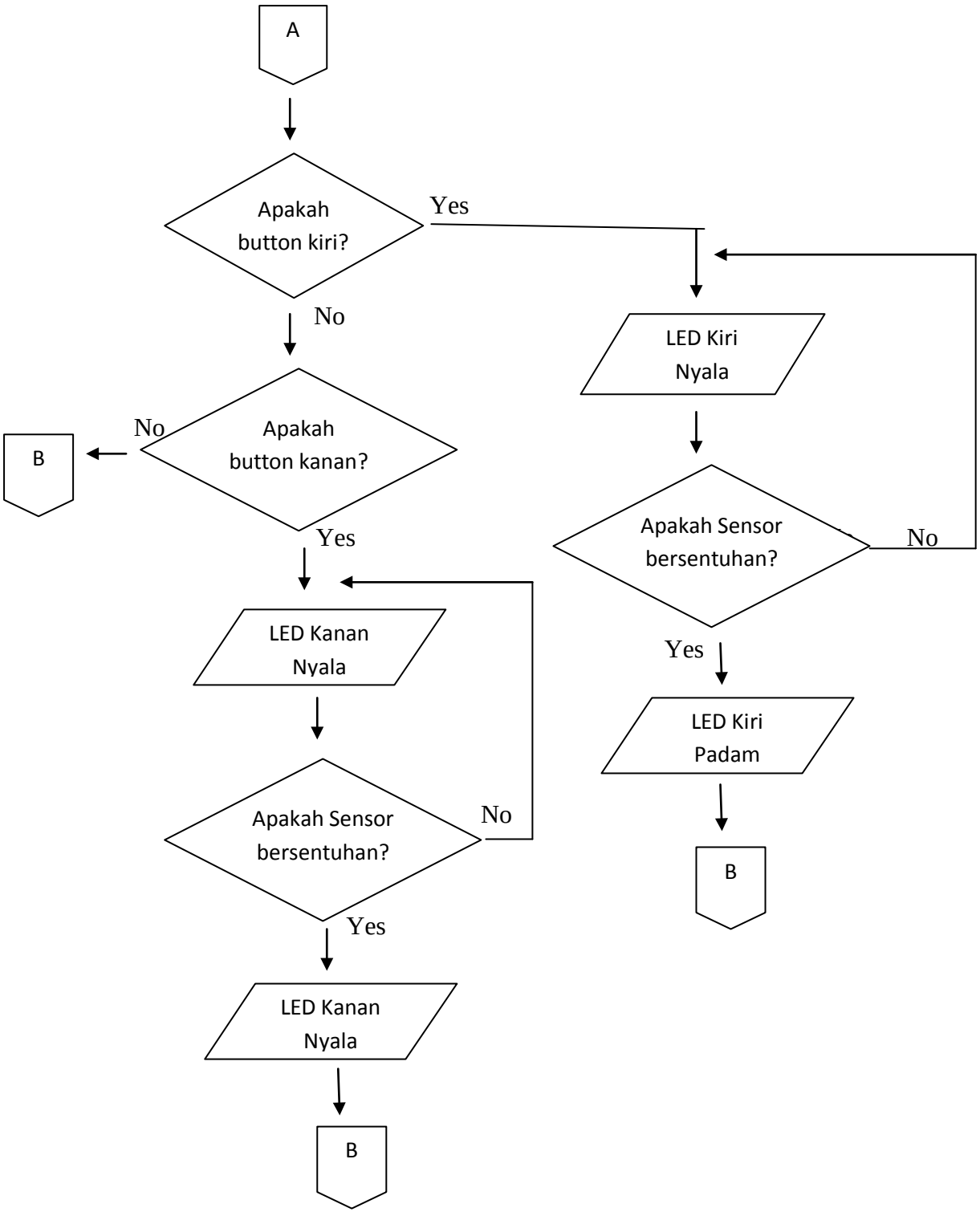
```
void night()
{

  digitalWrite(rightSignal, HIGH);
  digitalWrite(leftSignal, HIGH);
  digitalWrite(leftLED, LOW);
  digitalWrite(rightLED, LOW);
  delay(100);
  digitalWrite(rightSignal, LOW);
  digitalWrite(leftSignal, LOW);
  digitalWrite(leftLED, HIGH);
  digitalWrite(rightLED, HIGH);
  delay(100);
  digitalWrite(leftLED, LOW);
  digitalWrite(rightLED, LOW);
  digitalWrite(rightSignal, LOW);
  digitalWrite(leftSignal, LOW);
}

void day()
{

  digitalWrite(leftLED, LOW);
  delay (1);
  digitalWrite(leftLED, LOW);
```

```
  digitalWrite(rightLED, LOW);
  delay(1);
  digitalWrite(rightLED, LOW);
  delay (5);
}
```

Lampiran B

FlowChart




A
Apakah button kiri?
Yes
No
LED Kiri Nyala
Apakah button kanan?
No
B
Apakah Sensor bersentuhan?
No
Yes
LED Kiri Padam
B
Yes
LED Kanan Nyala
Apakah Sensor bersentuhan?
No
Yes
LED Kanan Nyala
B