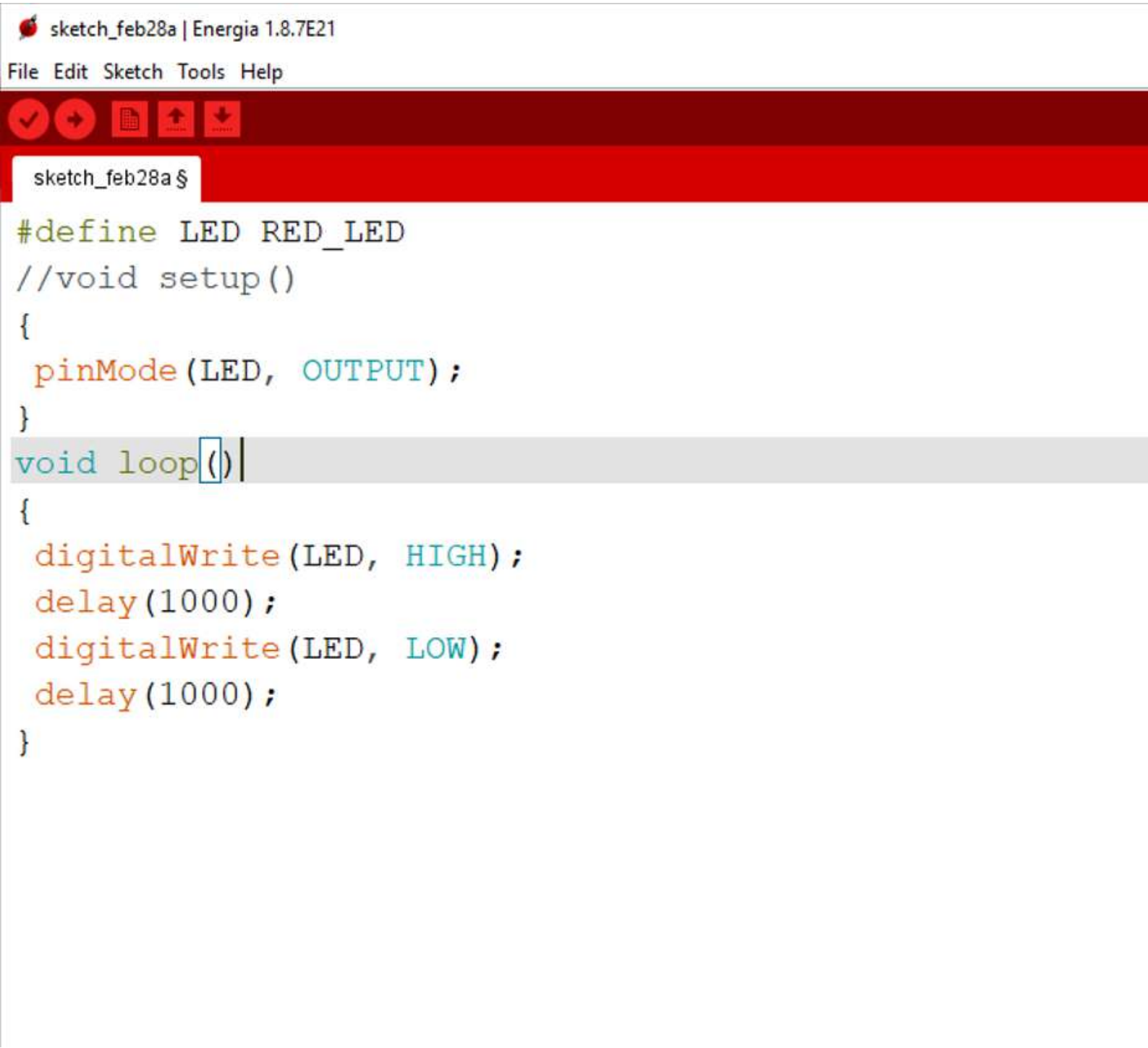
LED BLINKING



AND GATE

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 && launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
 digitalWrite(LED, LOW);
 }
}
```

XOR GATE

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP);
 pinMode(PUSH2, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 xor launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
  digitalWrite(LED, LOW);
 }
}
```

XNOR GATE

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP);
 pinMode(PUSH2, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 xor! launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
  digitalWrite(LED, LOW);
 }
}
```

OR GATE

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP);
 pinMode(PUSH2, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 or launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
  digitalWrite(LED, LOW);
 }
}
```

HALF ADDER

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```
void setup()
{
 pinMode(LED2, OUTPUT); //setting state of LED as OUTPUT
 pinMode(LED1, OUTPUT);
 pinMode(PUSH1, INPUT_PULLUP);
 pinMode(PUSH2, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if  (launchpadButtonState == 0 && launchpadButtonState1 == 0)
 {
 digitalWrite(LED2, HIGH);
 digitalWrite(LED1, LOW);
 }
  else if  (launchpadButtonState == 1 && launchpadButtonState1 == 1)
 {
  digitalWrite(LED2, LOW);
 digitalWrite(LED1, LOW);
 }
 else
  {
  digitalWrite(LED2, LOW);
 digitalWrite(LED1, HIGH);
 }
```

Exercise Question 3

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP);
 pinMode(PUSH2, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 or launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
  digitalWrite(LED, LOW);
 }
}
```

Exercise Question 4

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP);
 pinMode(PUSH2, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 or launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
  digitalWrite(LED, LOW);
 }
}
```

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```
#define LED RED_LED
int launchpadButtonState = 0;
int launchpadButtonState1 = 0;//variable
void setup()
{
 pinMode(LED, OUTPUT); //setting state of LED as OUTPUT
 pinMode(PUSH1, INPUT_PULLUP); //Setting the of onboard Push button to PULLUP
} //PUSH2 and PUSH1 are constants used for onboard buttons default ide.
void loop()
{
 launchpadButtonState = digitalRead(PUSH1);
 launchpadButtonState1 = digitalRead(PUSH2);
 if (launchpadButtonState == 0 && launchpadButtonState1 == 0)
 {
 digitalWrite(LED, HIGH);
 }
 else
 {
 digitalWrite(LED, LOW);
 }
}
```