Code for Spaceship Interface using Arduino

1. Code

The following code is used to read the push button and control the LED indicators representing normal and alert states:

```
int switchState = 0;

void setup() {

  pinMode(2, INPUT);    // push button
  pinMode(3, OUTPUT);   // green LED
  pinMode(4, OUTPUT);   // red LED 1
  pinMode(5, OUTPUT);   // red LED 2

}

void loop() {

  switchState = digitalRead(2);

  if (switchState == LOW) {

    digitalWrite(3, HIGH);
    digitalWrite(4, LOW);
    digitalWrite(5, LOW);

  } else {

    digitalWrite(3, LOW);
    digitalWrite(4, LOW);
    digitalWrite(5, HIGH);

    delay(250);

    digitalWrite(4, HIGH);
    digitalWrite(5, LOW);
```

```
  delay(250);

 }

}
```

Explanation:

This code reads the digital value from pin 2, which changes depending on whether the push button is pressed or not.

When the button is not pressed (LOW state), the green LED connected to pin 3 is turned ON, while both red LEDs remain OFF. This represents the normal operational mode of the spaceship interface.

When the button is pressed (HIGH state), the system enters alert mode. The green LED turns OFF, and the two red LEDs connected to pins 4 and 5 begin blinking alternately. The delay(250) function creates a 250-millisecond pause between LED state changes, producing a visible blinking effect.

The loop() function continuously repeats this process, ensuring real-time monitoring and response to user input.