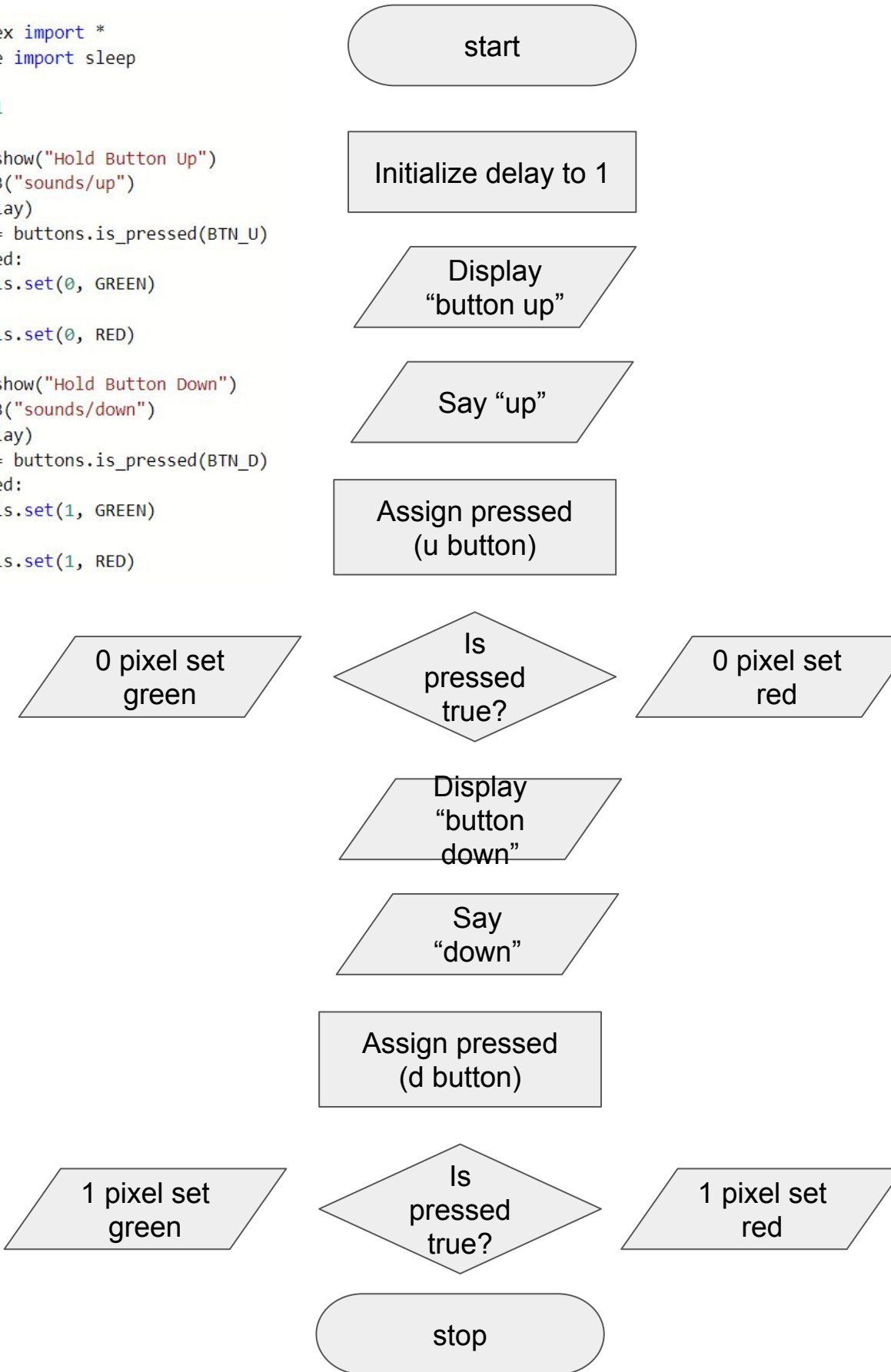## Code Sample A – possible solution

```python
from codex import *
from time import sleep

delay = 1

display.show("Hold Button Up")
audio.mp3("sounds/up")
sleep(delay)
pressed = buttons.is_pressed(BTN_U)
if pressed:
    pixels.set(0, GREEN)
else:
    pixels.set(0, RED)

display.show("Hold Button Down")
audio.mp3("sounds/down")
sleep(delay)
pressed = buttons.is_pressed(BTN_D)
if pressed:
    pixels.set(1, GREEN)
else:
    pixels.set(1, RED)
```

start

Initialize delay to 1

Display "button up"

Say "up"

Assign pressed (u button)

0 pixel set green

Is pressed true?

0 pixel set red

Display "button down"

Say "down"

Assign pressed (d button)

1 pixel set green

Is pressed true?

1 pixel set red

stop

Code Sample B – possible solution

```
delay = 1.0

pressed = buttons.is_pressed(BTN_A)
if pressed:
    pixels.set(0, RED)
    pixels.set(1, RED)
    sleep(delay)
    pixels.set(0, BLACK)
    pixels.set(1, BLACK)
    sleep(delay)

    pixels.set(0, RED)
    pixels.set(1, RED)
    sleep(delay)
    pixels.set(0, BLACK)
    pixels.set(1, BLACK)
    sleep(delay)
```

start

Initialize delay to 1

Assign pressed
(a button)

Is pressed true?   no

yes

Pixels 0, 1
set to red

Pixels 0, 1
set to
black

Pixels 0, 1
set to red

Pixels 0, 1
set to
black

stop
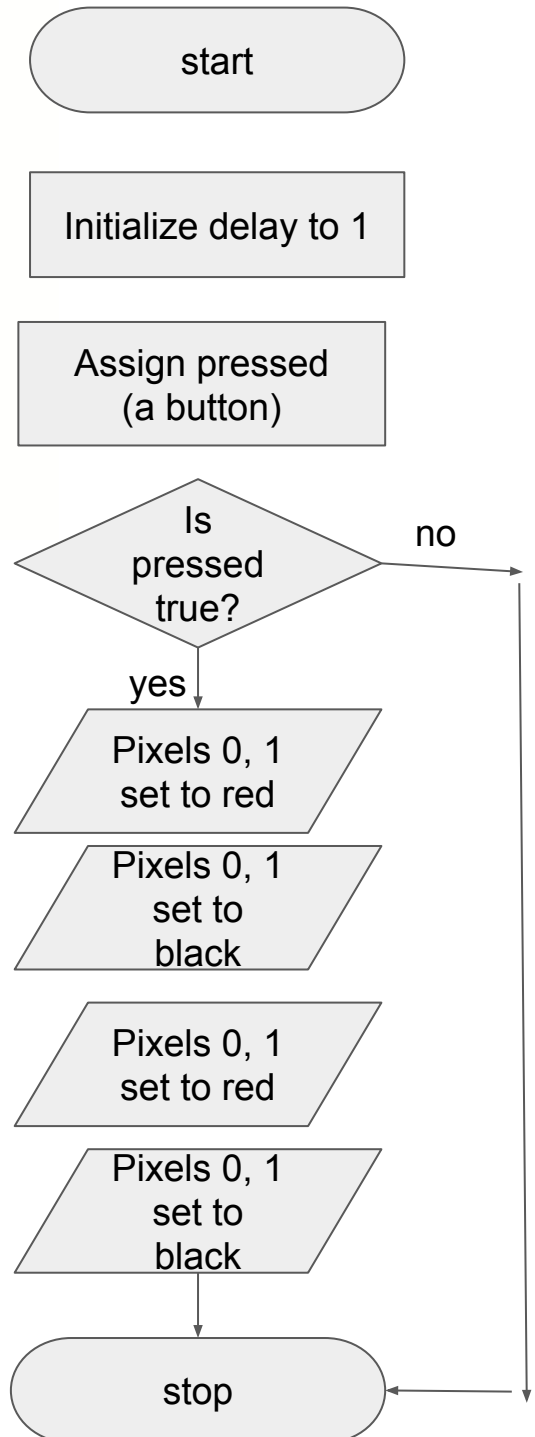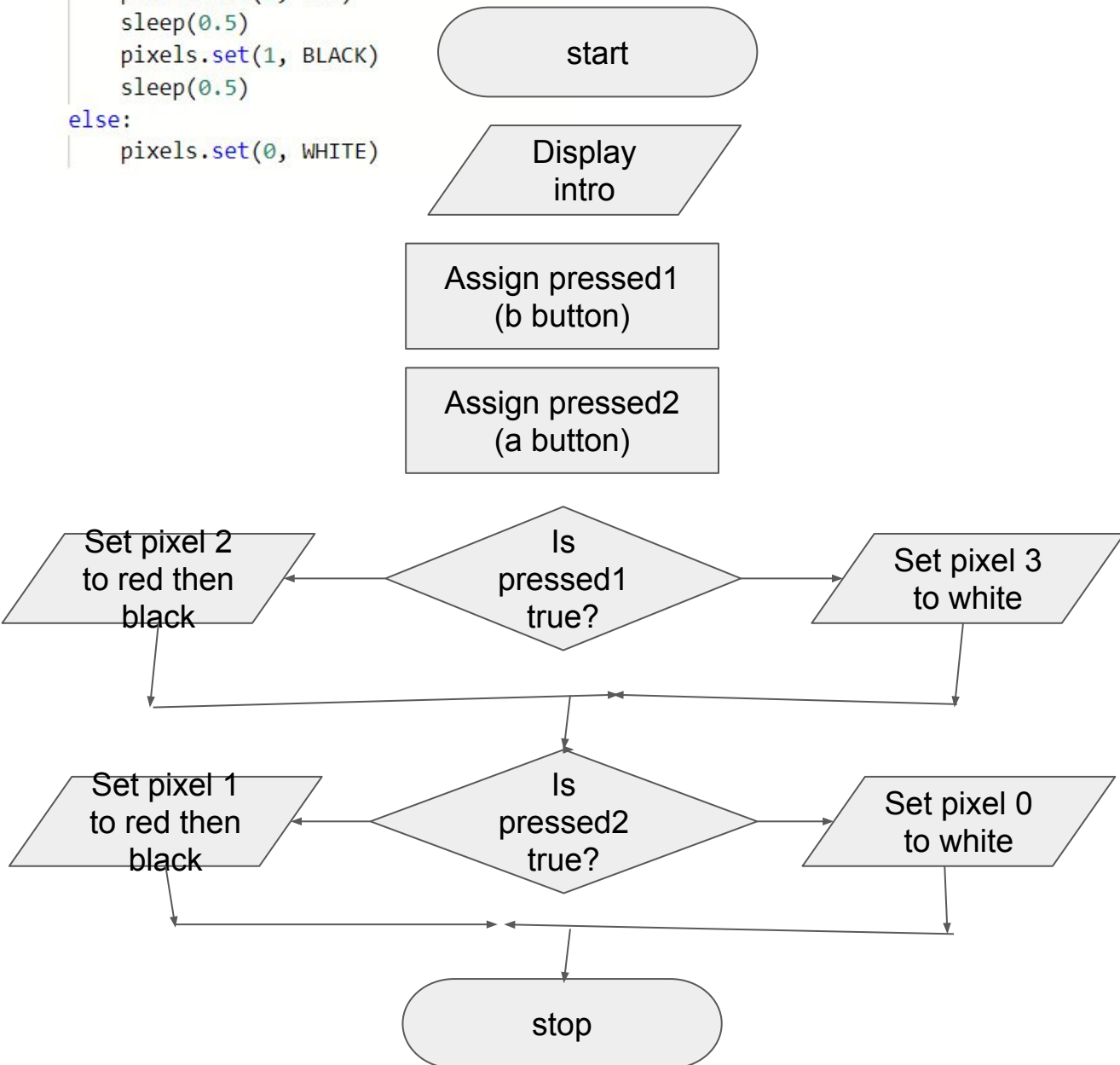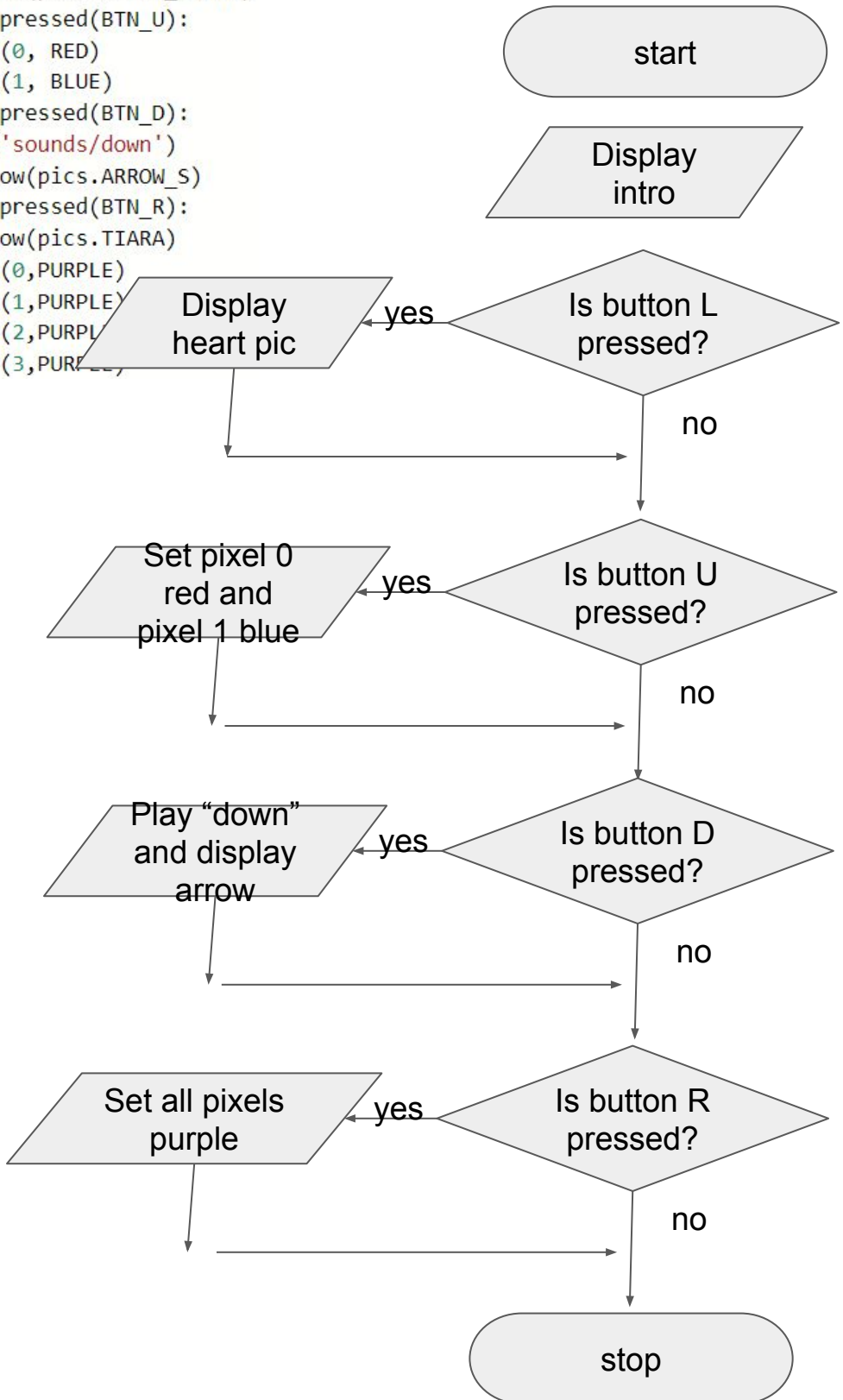
Code Sample C – possible solution

```python
display.show("Press a button")
sleep(3)
pressed1 = buttons.was_pressed(BTN_B)
pressed2 = buttons.was_pressed(BTN_A)
if pressed1:
    pixels.set(2, RED)
    sleep(0.5)
    pixels.set(2, BLACK)
    sleep(0.5)
else:
    pixels.set(3, WHITE)

if pressed2:
    pixels.set(1, RED)
    sleep(0.5)
    pixels.set(1, BLACK)
    sleep(0.5)
else:
    pixels.set(0, WHITE)
```

start

Display intro

Assign pressed1 (b button)

Assign pressed2 (a button)

Set pixel 2 to red then black

Is pressed1 true?

Set pixel 3 to white

Set pixel 1 to red then black

Is pressed2 true?

Set pixel 0 to white

stop

Code Sample D – possible solution

```python
display.print("Press a button")
display.print("for a surprise!")
sleep(3)
if buttons.is_pressed(BTN_L):
    display.show(pics.HEART_SMALL)
if buttons.is_pressed(BTN_U):
    pixels.set(0, RED)
    pixels.set(1, BLUE)
if buttons.is_pressed(BTN_D):
    audio.mp3('sounds/down')
    display.show(pics.ARROW_S)
if buttons.is_pressed(BTN_R):
    display.show(pics.TIARA)
    pixels.set(0,PURPLE)
    pixels.set(1,PURPLE)
    pixels.set(2,PURPLE)
    pixels.set(3,PURPLE)
```
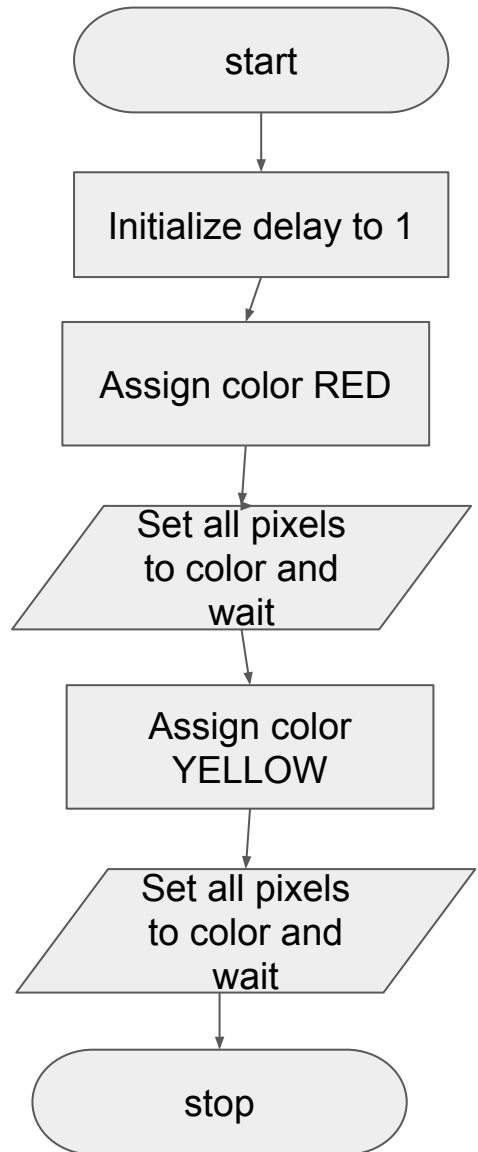
Code Sample E – possible solution

```
delay = 1

color = RED
pixels.set(0, color)
pixels.set(1, color)
pixels.set(2, color)
pixels.set(3, color)
sleep(delay)

color = YELLOW
pixels.set(0, color)
pixels.set(1, color)
pixels.set(2, color)
pixels.set(3, color)
sleep(delay)
```

start

Initialize delay to 1

Assign color RED

Set all pixels to color and wait

Assign color YELLOW

Set all pixels to color and wait

stop

Code Sample F – possible solution

```python
display.show("enjoy the tunes")

red = randrange(256)
green = randrange(256)
blue = randrange(256)
color = (red, green, blue)

display.show(pics.TIARA)
audio.mp3("sounds/welcome")

red = randrange(256)
green = randrange(256)
blue = randrange(256)
color = (red, green, blue)

display.show(pics.TSHIRT)
audio.mp3("sounds/bohemia")
```

```mermaid
flowchart TD
    start([start])
    A[Get random numbers for red, green, blue]
    B[Assign color from red, green, blue]
    C[/Display Tiara pic/]
    D[/Play welcome mp3/]
    E[Get random numbers for red, green, blue]
    F[Assign color from red, green, blue]
    G[/Display Tshirt pic/]
    H[/Play bohemia mp3/]
    stop([stop])
    start --> A --> B --> C --> D --> E --> F --> G --> H --> stop
```