

Sandbox | CMU CS Academy

```
1 # Butterfly
2 import random
3
4 Rect(0,0,400,400, fill='lightBlue')
5 Rect(0,366,400,34, fill='seaGreen')
6
7 button = Group(
8     Circle(200,350,45, fill='white'),
9     Circle(200,350,40, fill='salmon'),
10    Label('Press to draw', 200,350),
11    Label('a butterfly', 200,360)
12    )
13
14 sun = Group(
15    Circle(400,0, 70, fill='yellow'),
16    Circle(400,0, 90, fill='orange', opacity=30)
17    )
18
19 cloud =Group(
20    Circle(37,77,40, fill='white', opacity=85),
21    Circle(80,38,35, fill='white', opacity=85),
22    Oval(120,93,150,70, fill='white', opacity=85),
23    Circle(134,64,40, fill='white', opacity=85)
24    )
25
26 app.colors = [ 'lightCoral', 'deepSkyBlue', 'mediumPurple',
27               'lavender', 'crimson' ]
28 index2 = random.randint(0,4)
29 #app.colors= 0#
30
31 butterfly =Group(
32    Oval(195,210, 30, 50, fill=app.colors[index2], border='black'),
33    Oval(225,210, 30, 50, fill=app.colors[index2], border='black'),
34    Circle(200,200,10),
35    Circle(200,220,10),
36    Circle(220,200,10),
37    Circle(220,220,10),
38    Oval(210,210, 10, 50, fill=app.colors[1]),
39    Circle(210,188, 4, fill=app.colors[1])
40    )
41
42 butterflies= Group()
43 bcenterX= random.randint(0,400)
44 bcenterY= random.randint(0,400)
45
46 def createButterfly(centerX,centerY, index):
47     bcolor = random.randint(0,5)
48     butterfly(bcenterX,bcenterY,color)
49
50 def onMousePress(mouseX,mouseY):
51     if (button.hits(mouseX, mouseY)==True):
52         index2 = random.randint(0,4)
53         index2 = app.colors[index2]
54         print ('Butterfly Color: ' + index2)
55         butterflies.add(
56             Oval(195,210, 30, 50, fill=index2, border='black'),
57             Oval(225,210, 30, 50, fill=index2, border='black'),
58             Circle(200,200,10),
59             Circle(200,220,10),
60             Circle(220,200,10),
61             Circle(220,220,10),
62             Oval(210,210, 10, 50, fill=index2),
63             Circle(210,188, 4, fill=index2)
64         )
```