

Sandbox | CMU CS Academy

```
1 # Spy
2 # Sets app.message. It will store user text input.
3 app.message= ''
4
5 def drawBackground():
6     Rect(0, 0, 400, 400, fill='darkBlue', opacity=85)
7     radius = 10
8     counter = 1
9     while (counter < 7):
10         Circle(200, 200, radius, fill=None, border='gainsboro', borderWidth=5,
11             opacity=80)
12         radius += counter * 10
13         counter += 1
14
15 drawBackground()
16
17 # left spy
18 Oval(80, 270, 75, 100)
19 Oval(80, 250, 100, 30)
20 Oval(80, 238, 75, 20, fill='white')
21 Polygon(40, 240, 50, 210, 80, 220, 110, 210, 120, 240)
22 Oval(100, 272, 15, 7, fill='white')
23 Circle(100, 272, 3)
24 RegularPolygon(115, 285, 10, 3)
25 Polygon(113, 295, 115, 295, 98, 300, 106, 303, fill='white')
26 Polygon(40, 310, 120, 310, 110, 330, 140, 400, 20, 400, 50, 330)
27
28 # left speech bubble
29 Rect(50, 50, 280, 50, fill='crimson')
30 Polygon(60, 100, 55, 200, 70, 100, fill='crimson')
31 messageLeft = Label('', 190, 75, fill='white', size=18, bold=True)
32
33 # right spy
34 Oval(320, 270, 75, 100)
35 Oval(320, 250, 100, 30)
36 Oval(320, 238, 75, 20, fill='white')
37 Polygon(360, 240, 350, 210, 320, 220, 290, 210, 280, 240)
38 Oval(300, 272, 15, 7, fill='white')
39 Circle(300, 272, 3)
40 RegularPolygon(285, 285, 10, 3)
41 Polygon(287, 295, 285, 295, 302, 300, 294, 303, fill='white')
42 Polygon(360, 310, 280, 310, 290, 330, 260, 400, 380, 400, 350, 330)
43
44 # right speech bubble
45 Rect(100, 120, 270, 50, fill='mediumVioletRed')
46 Polygon(340, 170, 330, 200, 325, 170, fill='mediumVioletRed')
47 messageRight = Label('What is the message', 220, 145, fill='white',
48     size=18, bold=True)
49
50
51 def encodeMessage():
52     code = ''
53     # Encode the message by placing every even-indexed letter on the right
54     # of the code and every odd-indexed letter on the left.
55     ### Place Your Code Here ###
56     for i in range(len(app.message)):
57         if(i % 2 == 1):
58             code = app.message[i] + code
59         else:
60             code += app.message[i]
61
62     # Have the spy on the left say the code.
63     ### Place Your Code Here ###
64     messageLeft.value = code
65
66 def onKeyPress(key):
67     # When 'space' is pressed, get user input, setting the prompt to
68     # 'What is the message?', and store the input in app.message.
69     # Then encode the message and have the spy on the right decode it by
70     # writing the original input in their speech bubble.
71     ### Place Your Code Here ###
72     if(key == 'space'):
73         app.message = app.getTextInput('What is the message?')
```

```
74     messageRight.value = app.message
75     encodeMessage()
```