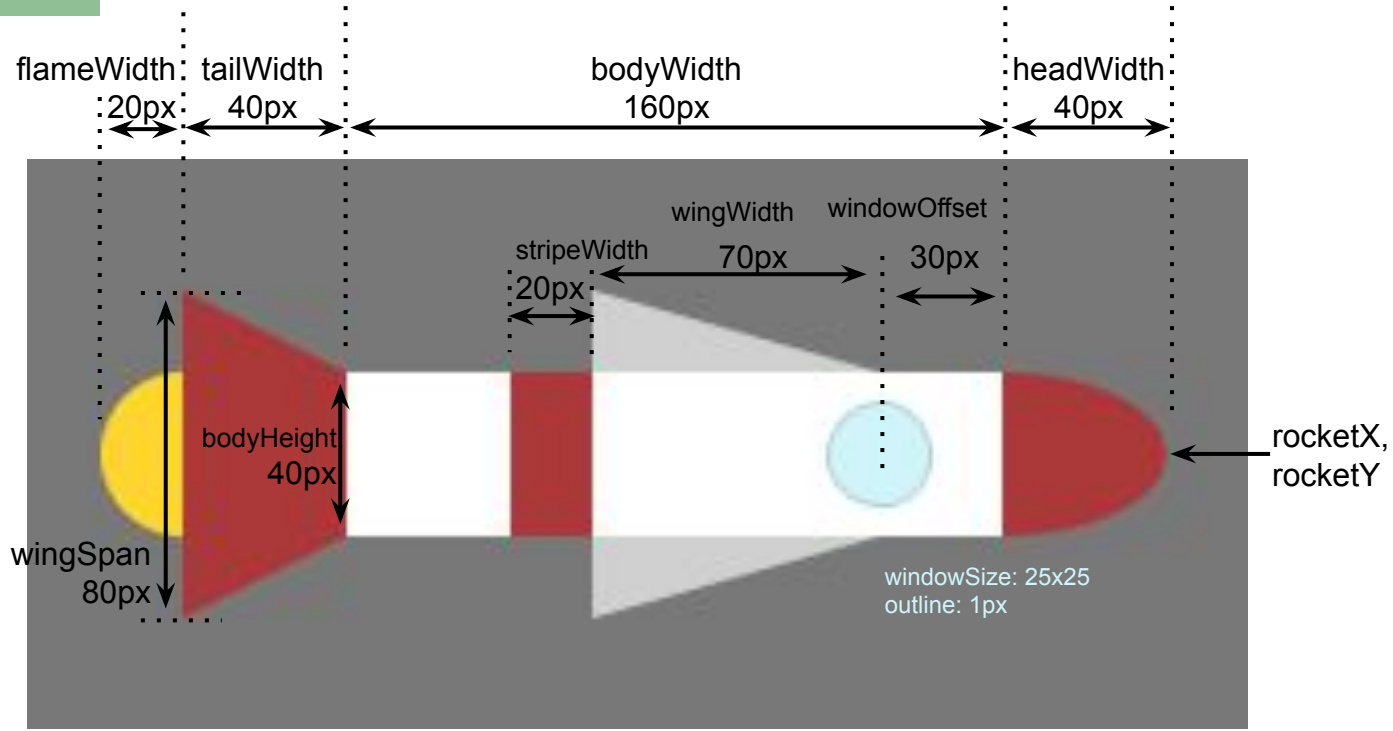
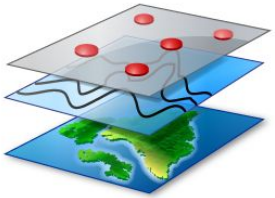
練習一: 畫出火箭

實作:25min
解答:8min

後方火焰 #FFD62E
機身 純白
灰色翅膀 #D0D0D0
紅色塗層 #AC3939
窗戶玻璃 #CFF4F9
窗戶外框 #B6D1DA



＊提示
從底層畫起



補充

参考指令
https://processing.org/reference/

fill()
stroke()
strokeWeight()
noStroke()

rect()
ellipse()
arc()
triangle()
quad()

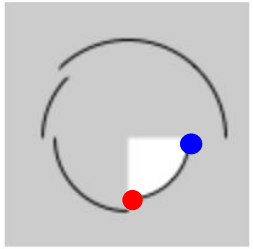
補充

arc()

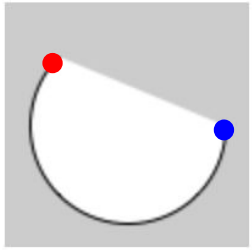
```
arc(a, b, c, d, start, stop)
arc(a, b, c, d, start, stop, mode)
```

a	x-coordinate of the arc's ellipse
b	y-coordinate of the arc's ellipse
c	width of the arc's ellipse by default
d	height of the arc's ellipse by default

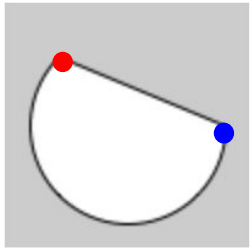
＊順時針 ● start ● stop



```
arc(50, 55, 50, 50, 0, HALF_PI);
noFill();
arc(50, 55, 60, 60, HALF_PI, PI);
arc(50, 55, 70, 70, PI, PI+QUARTER_PI);
arc(50, 55, 80, 80, PI+QUARTER_PI, TWO_PI);
```



```
arc(50, 50, 80, 80, 0, PI+QUARTER_PI, OPEN);
```



```
arc(50, 50, 80, 80, 0, PI+QUARTER_PI, CHORD);
```

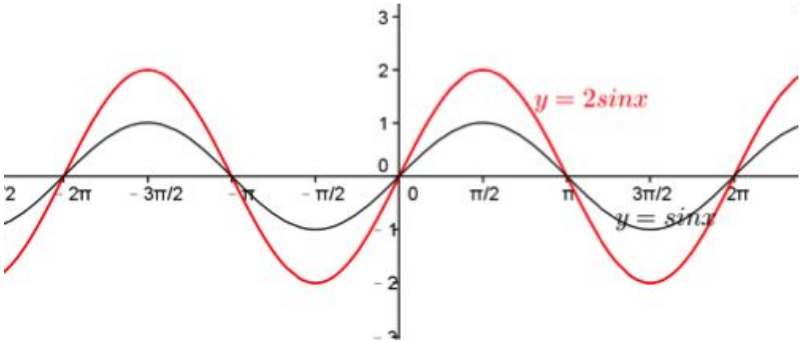
練習二: 火箭動畫

實作:25min
解答:8min

火箭從左方畫面外進入，從右方畫面外離開，循環播放
(火箭必須完整從右邊消失才能從左邊出現)
x方向移動速度 rocketXSpeed = 5

火箭以 y: 100 為軸心做正弦波 (sin) 上下飄動
振幅為 rocketYAmplitude = 40

補充



yOffset = A * sin(x)

A: rocketYAmplitude
x: 預設為弧度

radian（弧度）

角度單位							
角度	0°	30°	45°	90°	180°	270°	360°
弧度	0	π/6	π/4	π/2	π	3π/2	2π

radians (360)

透過指令，讓電腦自動幫你把 360° 換算成 2π

補充

min() / max() 指令

```
float f = min(12.3, 230.24);  // Sets 'f' to 12.3

float c = max(12.3, 230.24);  // Sets 'c' to 230.24
```