4

STAGE

HACK ATTACK!

⭐ Chapter Objective

Learn how to control sprites using the mouse and program objects to bounce when hit.
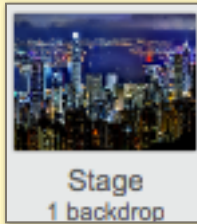
The Game

Help Scratchy stop Viruses from attacking Hong Kong's server. If you stop 30 viruses, you win the game!

1   * Download file "Scratch Stage 4"   ➡️   **Scratch Stage 4**

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2   Click the **"Stage"**   ➡️

Stage
1 backdrop

3   Program the Background Stage to Glow

```
when I receive start ▼
clear graphic effects
forever
    repeat 2
        wait 0.3 secs
        change brightness ▼ effect by -5
    repeat 2
        wait 0.3 secs
        change brightness ▼ effect by 5
```

4 Click the **"Instructions"** →

Instructions

5 Program the Instruction Sprite to show up at the start of the game

```
when [flag] clicked
go to x: 0 y: 0
show
forever
    if < key space pressed? > then
        broadcast space
        hide
```

6 Program the game to start when the Space button is clicked

```
when I receive space
broadcast start
```

7 Click **"Neo-Cat"** Sprite →

Neo-cat

8 Program Scratchy to change costumes when the mouse is clicked

```
when [flag] clicked
forever
    if < mouse down? > then
        switch costume to Neo-cat2
        wait 0.1 secs
    else
        switch costume to Neo-cat1
```

9 Program Scratchy to hide before the game starts

```
when [flag] clicked
hide
```

10 Program Scratchy to move towards the mouse when it is clicked

```
when I receive start ▼
go to x: -185 y: -115
point in direction 90▼
go to front
show
forever
    if  mouse down?  then
        point towards mouse-pointer ▼
        glide 0.1 secs to x: mouse x y: mouse y
```

11 Program Scratchy say "OH NO!!" whenever he <u>receives</u> the "Oh" signal

```
when I receive Oh ▼
say OH NO!! for 0.3 secs
```
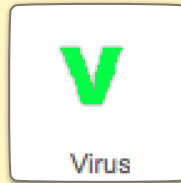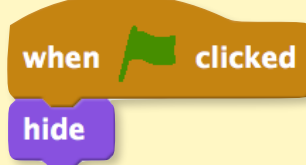
12 Click "**Server**" Sprite →

Server

13 Program a starting point for the Server sprite (at the bottom of the game)
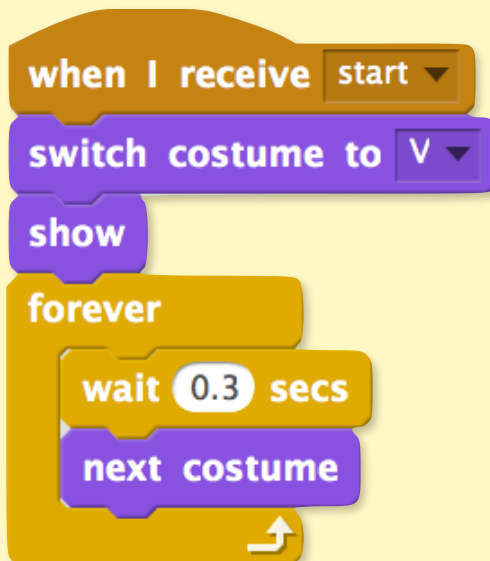
```
when I receive start ▼
go to x: 0 y: -176
```
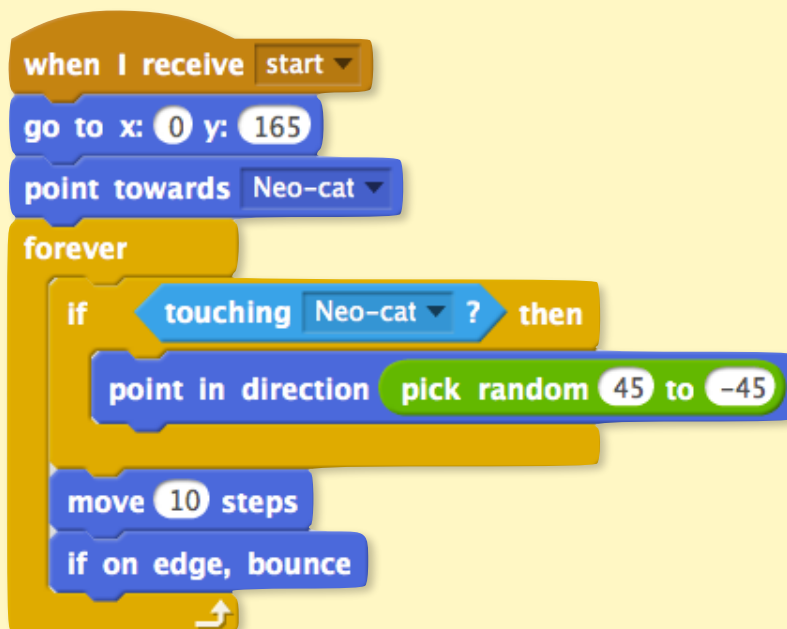
14 Click **"Virus"** Sprite ➡️

V

Virus

15 Hide the **"Virus"** Sprite until the game starts

when 🏳 clicked
hide

16 Program the **"Virus"** to switch costumes forever

when I receive start ▼
switch costume to V ▼
show
forever
　wait 0.3 secs
　next costume

17 Program the virus to fly around **AND** to bounce whenever it touches Scratchy of the edge of the screen

when I receive start ▼
go to x: 0 y: 165
point towards Neo-cat ▼
forever
　if touching Neo-cat ▼ ? then
　　point in direction pick random 45 to -45
　move 10 steps
　if on edge, bounce

18 Program a script to **keep score** <u>AND</u> decide **how many points you need to win**

```
when I receive start ▾
set score ▾ to 0
wait 0.5 secs
forever
    if < touching Neo-cat ▾ ? > then
        change score ▾ by 1
        wait 0.5 secs

    if < score > 29 > then
        hide
        broadcast win ▾ and wait
        stop all ▾
```

19 Program a script to **create lives for Scratchy** <u>AND</u> **broadcast the lose screen** if you run out of lives

```
when I receive start ▾
set chance ▾ to 5
wait 0.5 secs
forever
    if < touching Server ▾ ? > then
        change chance ▾ by -1
        broadcast Oh ▾
        wait 0.5 secs

    if < chance < 1 > then
        hide
        broadcast lose ▾ and wait
```
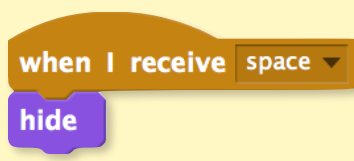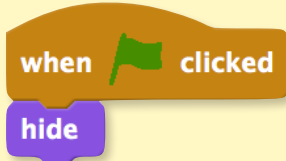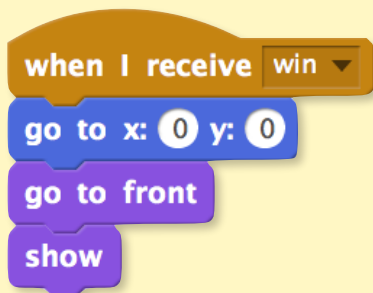
20 Click **"Win"** Sprite →

Win
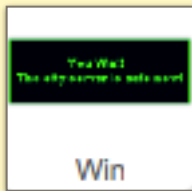
21 Hide the **"Win"** Sprite AND keep it hidden during the game

when 🚩 clicked
hide

when I receive space ▼
hide

22 Program the **"Win"** sprite to appear if it receives the win message

when I receive win ▼
go to x: 0 y: 0
go to front
show

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23 Click **"Lose"** Sprite →
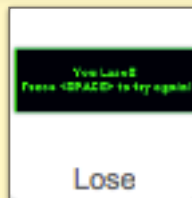
Lose

24 Hide the **"Lose"** Sprite AND keep it hidden during the game

when 🚩 clicked
hide

when I receive space ▼
hide
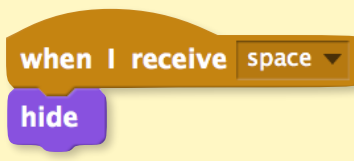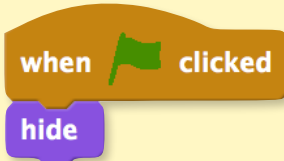
25 Program the **"Lose"** sprite to appear if it receives the lose message

when I receive lose ▼
go to x: 0 y: 0
go to front
show
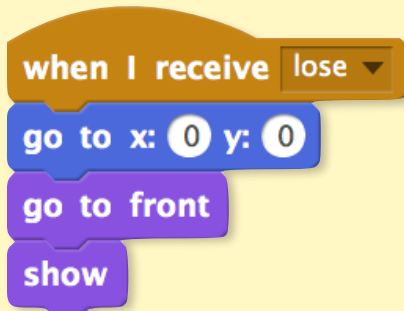
You just created a Virus, now go Save Hong Kong from it!!!!