

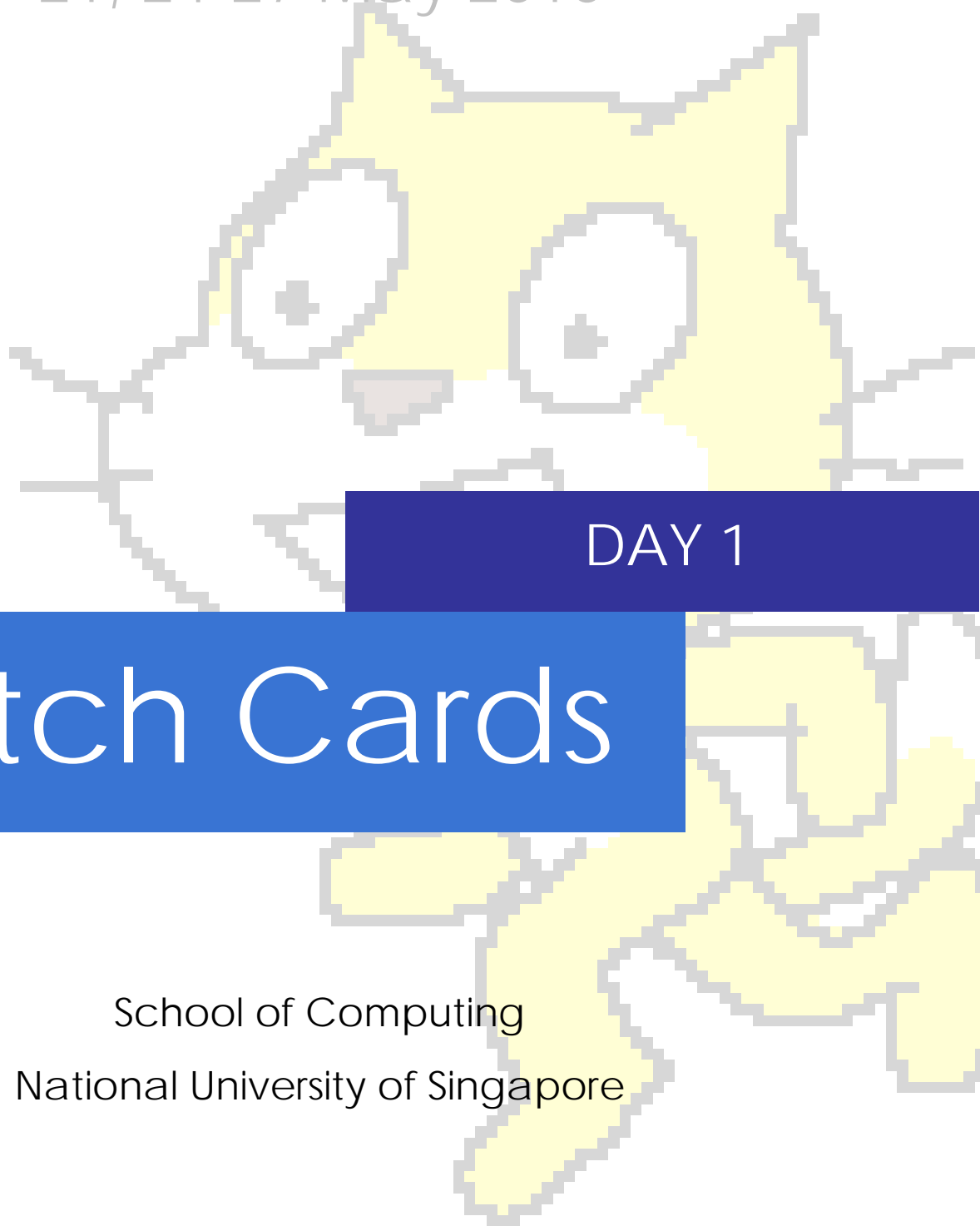
Scratch Workshop

21, 24-27 May 2010

DAY 1

Scratch Cards

School of Computing
National University of Singapore



Scratch Card 1

1. Select the **LOOKS** palette.
2. Drag **switch to costume** block onto the script area.
3. Select the **CONTROL** palette.
4. Drag **when flag clicked** block to the script area and snap it on top of **switch to costume**.
5. In the middle pane, click on *Costumes tab* to display sprite's costumes.
6. Click on *costume2* to change the sprite on stage.
7. Click back on *costume1* to change how the sprite displays on the stage.
8. Click on the *flag* above the stage.
9. To save, click *File | Save As* & give a location and filename.

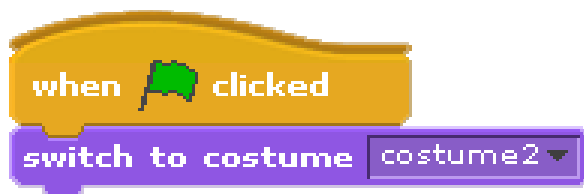


Figure 1 Final script of Card 1

Scratch Card 2

1. Select the **MOTION** palette.
2. Drag **change x by** block onto the script area for Sprite1 and snap it in place at the end of the script.
3. Click on script to watch the sprite move across the stage.
4. Change number field of **change x by** from 10 to 20.
5. Click on script again.
6. Drag **change y by** block and snap it to the end of the script.
7. Change number field of **change y by** to a negative number, say -25.
8. Click on the *flag* above the stage.
9. To save, click *File* | *Save As* & give a location and filename.



Figure 2 Final script of Card 2





Scratch Card 3

1. Select the **CONTROL** palette.
2. Drag the **forever** block and snap it in place between the **when flag clicked** and **switch to costume** blocks.
3. Click on script to watch the sprite disappear from the stage.
4. Select the **MOTION** palette.
5. Drag the **if on edge, bounce** block and snap it to the bottom of the **change y by** block.
6. Click on script again to watch the sprite reappear.
7. To save, click *File* | *Save As* & give a location and filename.



Figure 3 Final script of Card 3

Scratch Card 4

1. On the toolbar above the stage, click on the *scissors*.
2. Move scissors over the **change x by** block until it is outlined in a red square. Click to delete the block.
3. Similarly delete the **change y by** block.
4. From the **MOTION** palette, drag the **move 10 steps** block and snap it before the **if on edge, bounce** block.
5. From the **LOOKS** palette, snap the **switch to costume** block after the **move 10 steps** block. On the newly added **switch to costume** block, change its value to costume1 from the drop down menu on the block.
6. Click on script to watch the sprite.
7. Above the *Script* area, to the left of the sprite there are three directional buttons: *can rotate* , *only face left-right* , and *don't rotate* .
8. Click on , and now sprite doesn't run upside down when it bounces off the side of the stage.
9. To save, click *File | Save As* & give a location and filename.

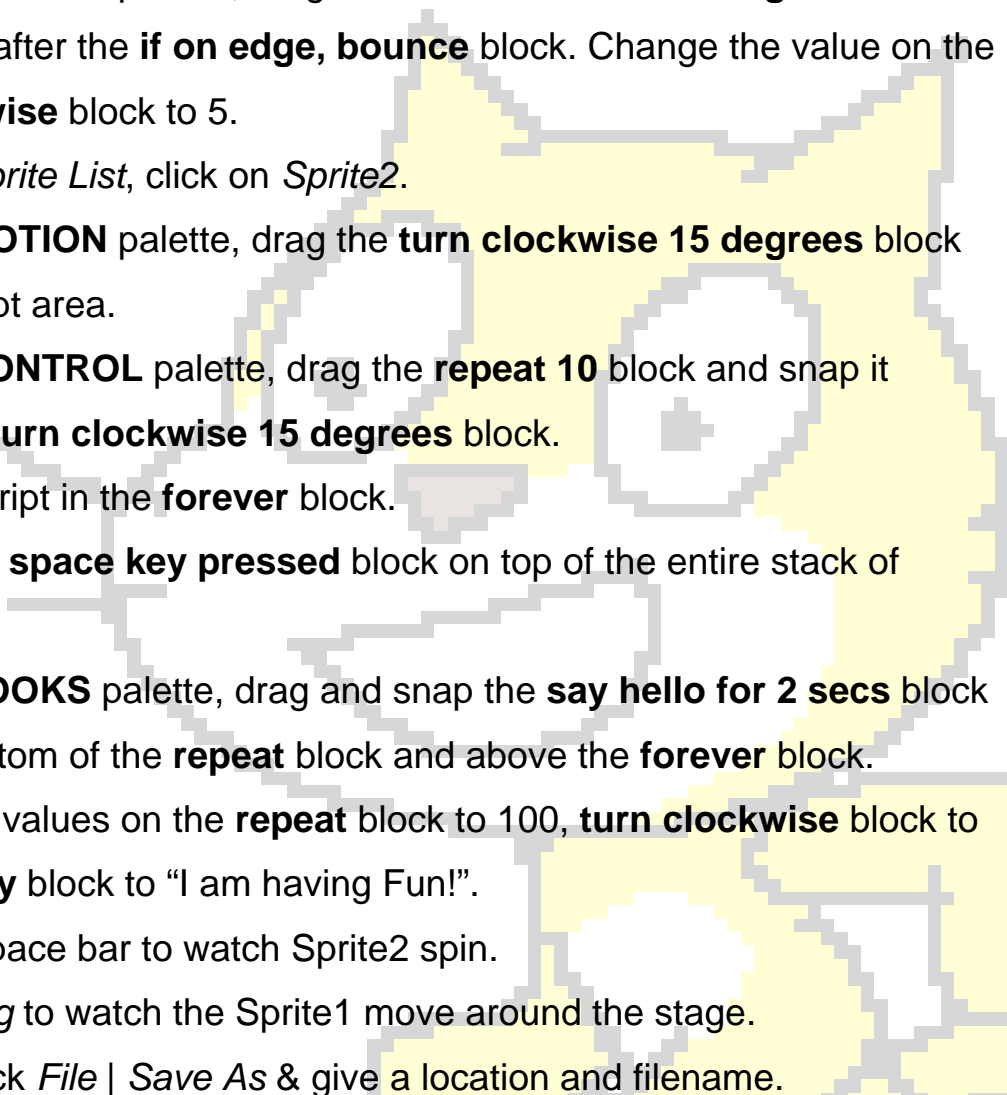
Can you make the cat run backward across the screen ? **Hint:** don't use rotate.



Figure 4 Final script of Card 4



Scratch Card 5

1. From the *Sprite List* at the bottom of the left pane, click on *Sprite 1*.
 2. From the **MOTION** palette, drag the **turn clockwise 15 degrees** block and snap it after the **if on edge, bounce** block. Change the value on the **turn clockwise** block to 5.
 3. From the *Sprite List*, click on *Sprite 2*.
 4. From the **MOTION** palette, drag the **turn clockwise 15 degrees** block into the script area.
 5. From the **CONTROL** palette, drag the **repeat 10** block and snap it around the **turn clockwise 15 degrees** block.
 6. Wrap the script in the **forever** block.
 7. Place **when space key pressed** block on top of the entire stack of blocks.
 8. From the **LOOKS** palette, drag and snap the **say hello for 2 secs** block onto the bottom of the **repeat** block and above the **forever** block.
 9. Change the values on the **repeat** block to 100, **turn clockwise** block to 270, and **say** block to "I am having Fun!".
 10. Press the space bar to watch *Sprite 2* spin.
 11. Click the *flag* to watch the *Sprite 1* move around the stage.
 12. To save, click *File | Save As* & give a location and filename.
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```
when clicked
  forever
    switch to costume costume2
    move 10 steps
    switch to costume costume1
    if on edge, bounce
    turn 5 degrees
```

Figure 5 Final script of Sprite1

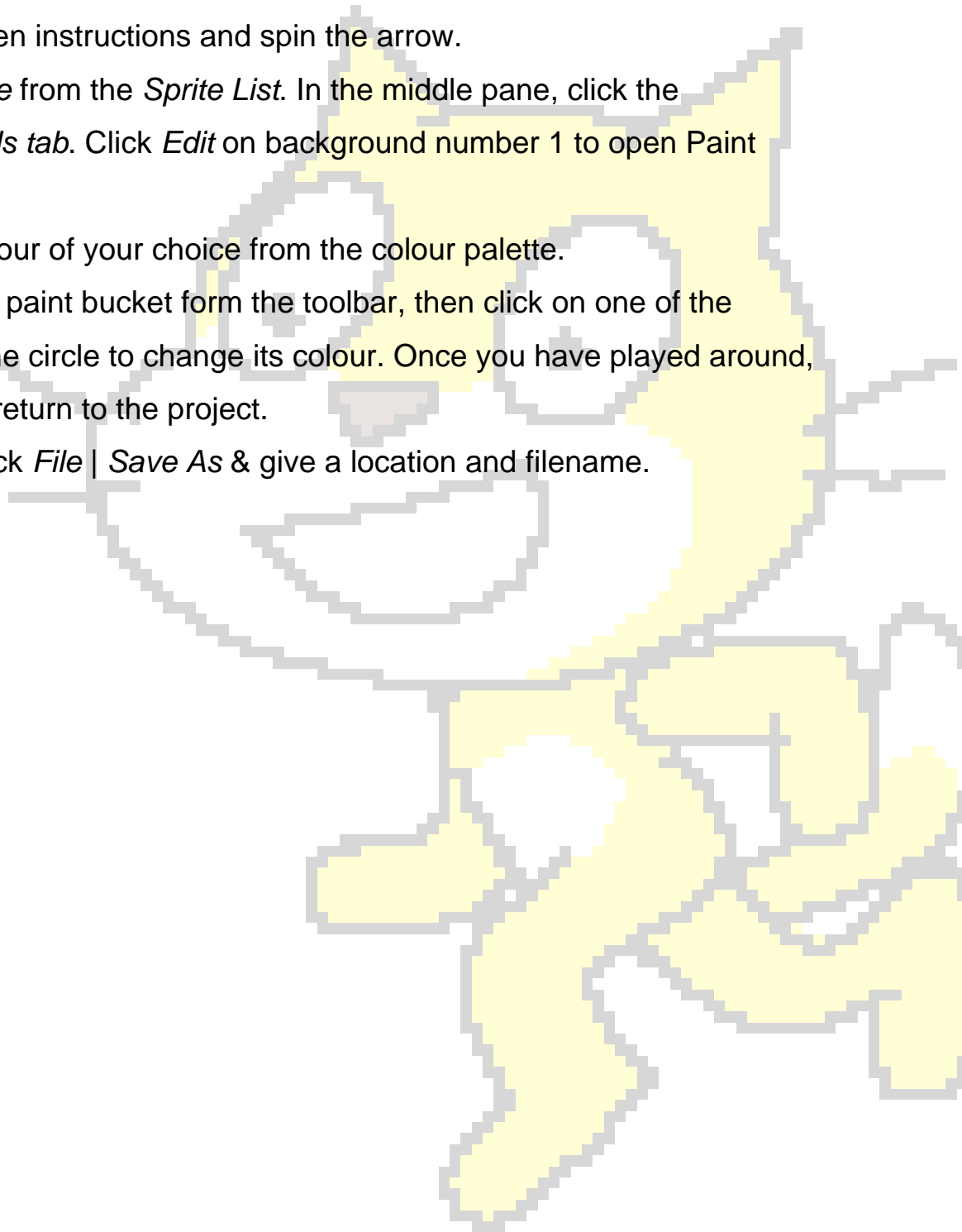
```
when space key pressed
  forever
    repeat 100
      turn 270 degrees
    say I am having Fun! for 2 secs
```

Figure 6 Final script of Sprite2



Scratch Card 6

1. Go to *File > Open...*
2. Select *Examples > Simulations > Spinner*.
3. Follow screen instructions and spin the arrow.
4. Select *Stage* from the *Sprite List*. In the middle pane, click the *Backgrounds tab*. Click *Edit* on background number 1 to open Paint Editor.
5. Select a colour of your choice from the colour palette.
6. Click on the paint bucket from the toolbar, then click on one of the sectors in the circle to change its colour. Once you have played around, click OK to return to the project.
7. To save, click *File | Save As* & give a location and filename.



Scratch Card 7

1. Select *Stage* from the *Sprite List*. In the middle pane, click *Backgrounds tab*. Click *copy* to duplicate it. A new copy named *background1* will appear.
2. For *background1*, click *Edit* to open Paint Editor. Click *flip horizontally* located above the editor window and click OK to exit.
3. Select *Spinner* from the *Sprite List*. Change the middle pane to the *Scripts tab*.
4. Select **broadcast** block from the **CONTROL** palette, and add it before the **turn 5 degrees** block in the script. Click on the message drop-down list of the **broadcast** block and choose “new...”.
5. Type “spin” in the message name dialog box and click OK.
6. Select *Stage* from the *Sprite List*. From the **CONTROL** palette, add **when I receive** block to the script area. By default, you will see “spin” as the value of the block.
7. From the **LOOKS** palette, Drag **next background** block to the script. Click on the arrow.
8. To save, click *File | Save As* & give a location and filename.



Figure 8 Final script of Spinner sprite



Figure 7 Final script of Stage sprite