Phap Pham
Period 2
April 20, 2018
AP Computer Science Principle

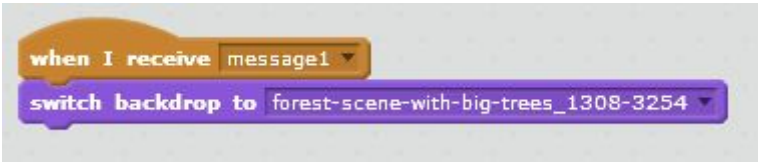
Game Questions

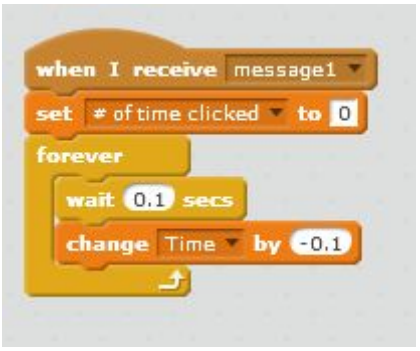
2a.) The program is a clicking game. I wrote this game in Scratch. The purpose of my program is to have to user click on the bug. The user will only have 30 seconds to click on the bug as many times as he can. The number of click will be recorded. The bug will move around at various speed. As time pass, the number of moving characters on the screen will increase. The video illustrates the mechanics of the game, like the starting screen, the start button, and the score screen. The video demonstrates also how the character changes each time it clones. It also give a general idea of how the game works.

2b.)When writing this game I have encounter several difficulties. One of the difficulties was making the backdrop. According to the instructure's recommendation, we should make the backdrop in elsewhere like PowerPoint and import it into Scratch. When I try this the picture become pixelated to the point that you can not even read it. In the end, I just make the picture in Scratch itself. Another difficulty is when the stop all code did not work. The code was in a boolean loop that say if the variable, time, is equal to 30, then stop all. When I tried it out, the program did not stop when the time is 30 seconds. I spent a long time trying everything and in the end I just adjust the if time equal 30 to if time is greater than 30. Fortunately, after doing this, the code stopped after 30 seconds.

2c.)The algorithm I show below is very important because it handles the level of difficulties of my game. Every 2 seconds, this algorithm make a clone. This mean that every 2 seconds the number of figure moving on the screen will increase. Every time the number of character changes, the custom of the sprite changes. The variable *costumes* limit the number of character on the screen.

2d.)

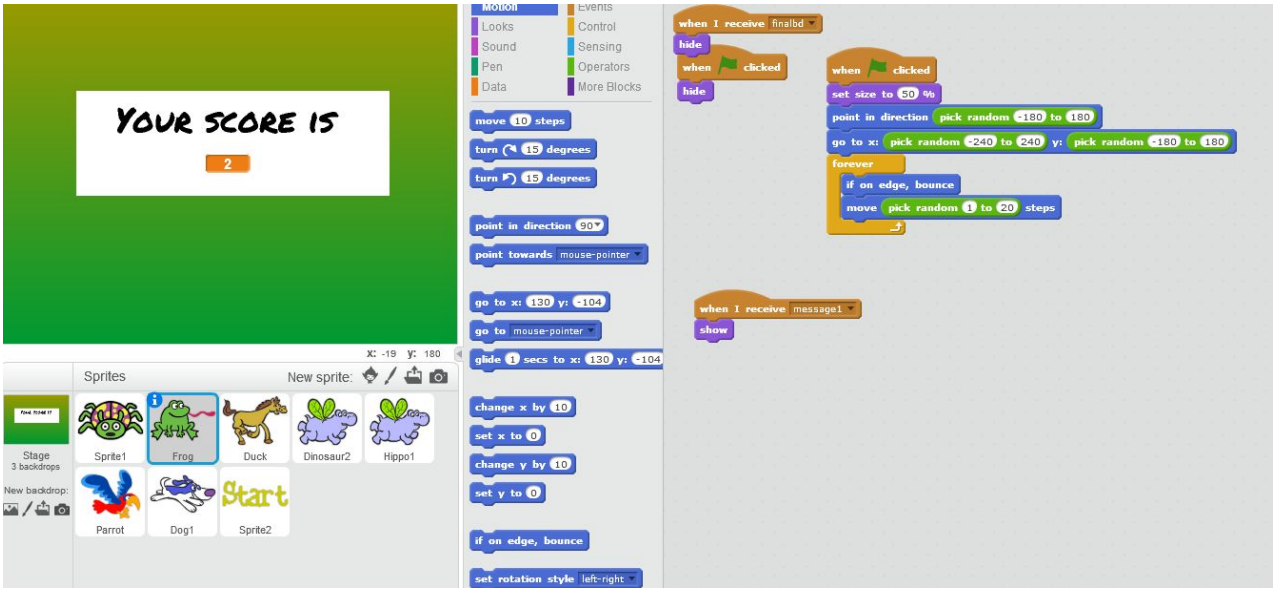


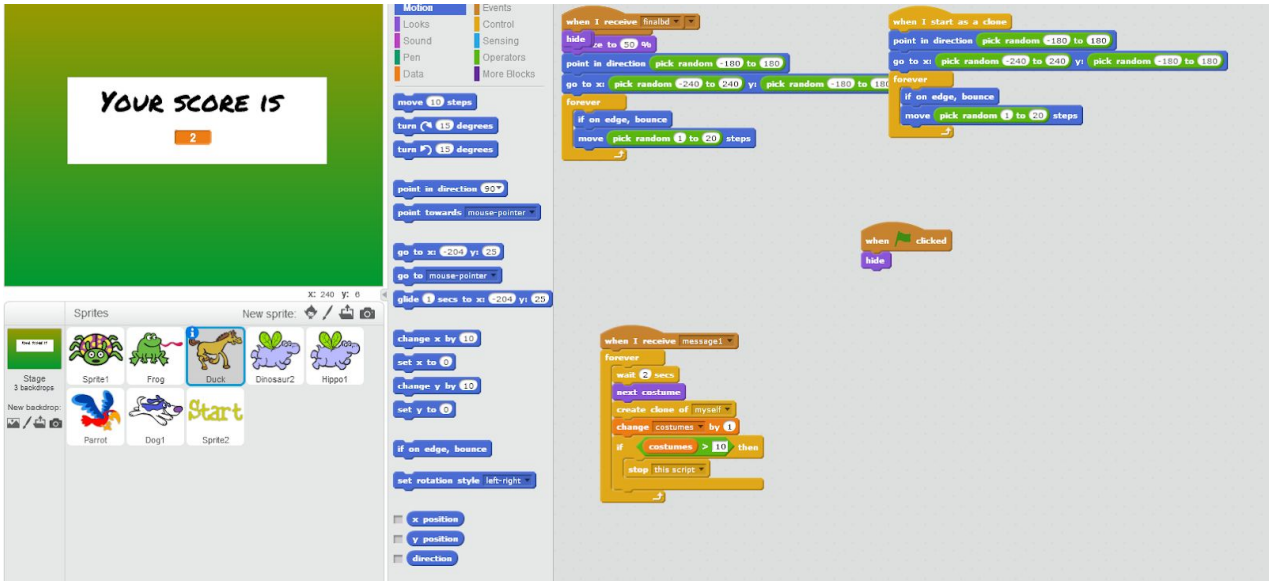


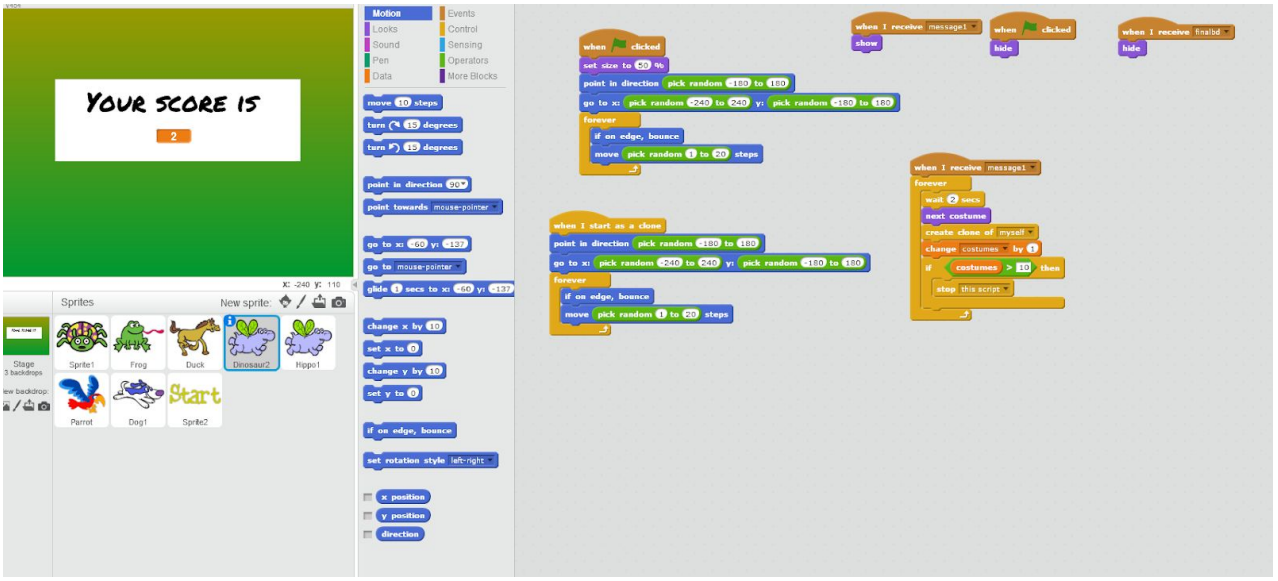
This code show abstraction because it run 4 different algorithms when I click on one sprite(the start button). The 3 different algorithms then make it so that the whole game would start. When the start button is clicked, the backdrop changes, the *Time* variable start to run, and the clone algorithm would be activated. Most important of all, all of the sprite will be shown on the screen once the start button is clicked. Once these algorithms is activated, the whole game would start to run by itself. The whole game is activated by the 4 algorithms and these 4 algorithms is activated by the start button.

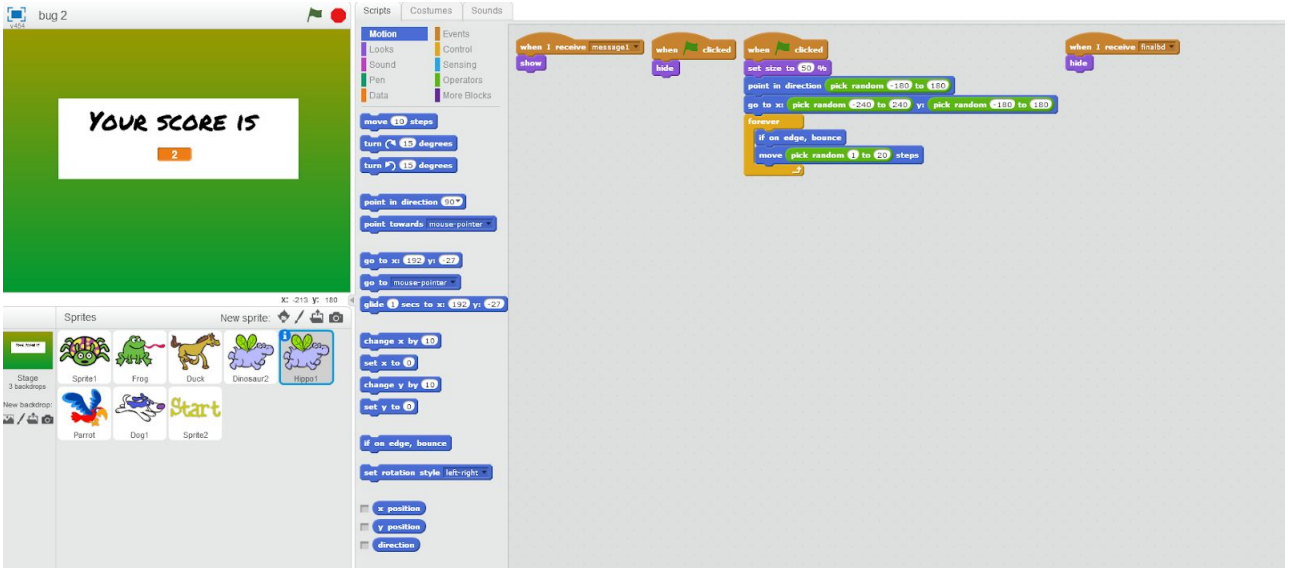
3.)

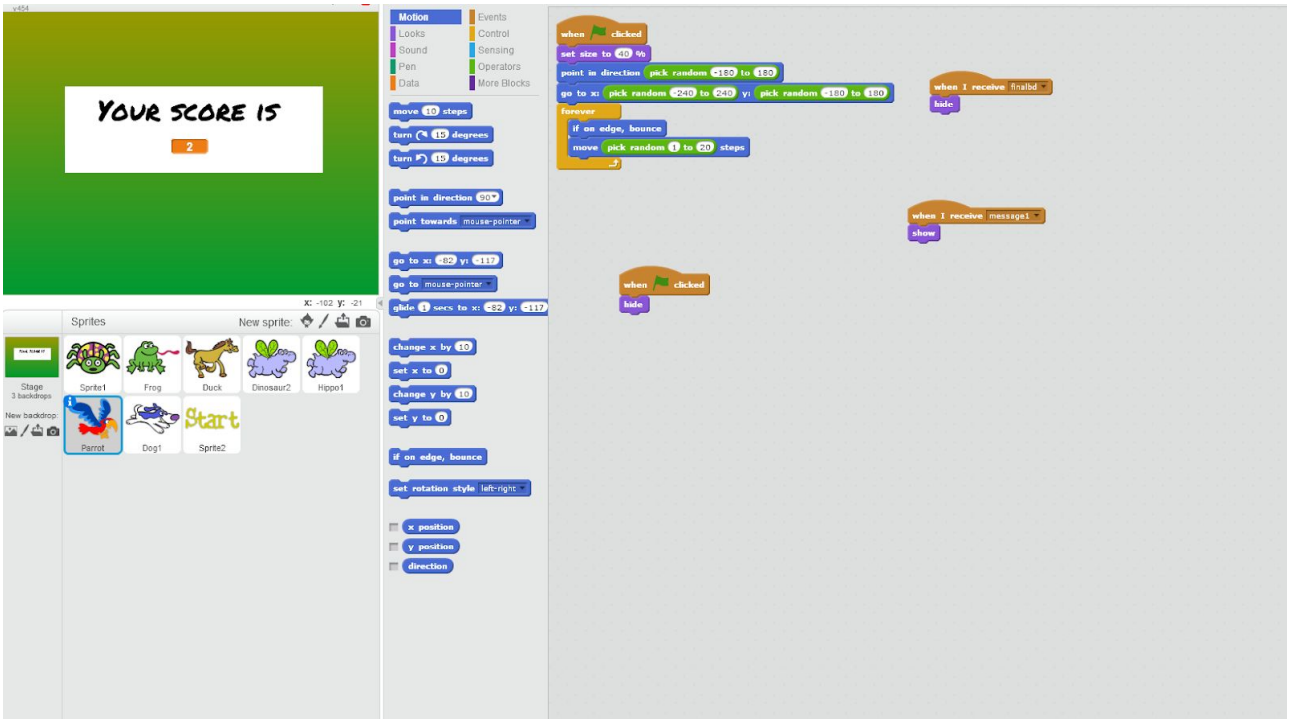

YOUR SCORE IS
2
Sprites
New sprite:
Stage
3 backdrops
New backdrop:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Start
Sprite2
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: -9 y: 56
go to mouse-pointer
glide 1 secs to x: -9 y: 56
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when I receive message1
set # of time clicked to 0
forever
wait 0.1 secs
change Time by -0.1
when this sprite clicked
play sound pop
set size to 150 %
wait 0.1 secs
set size to 50 %
set x to pick random -240 to 240
set y to pick random -180 to 180
change # of time clicked by 1
when I receive message1
play sound Nyan Cat Beat Remix (1).mp3
show variable # of time clicked
show variable Time
set size to 50 %
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 2 to 20 steps
when clicked
show
set YOUR FINAL SCORE IS... to 0
set costumes to 0
set # of time clicked to 0
hide variable # of time clicked
hide variable Time
hide variable YOUR FINAL SCORE IS...
forever
if Time < 0 then
set YOUR FINAL SCORE IS... to # of time clicked
show variable YOUR FINAL SCORE IS...
hide variable # of time clicked
set Time to 20
broadcast finalbd
stop all
when I receive finalbd
hide
hide variable Time

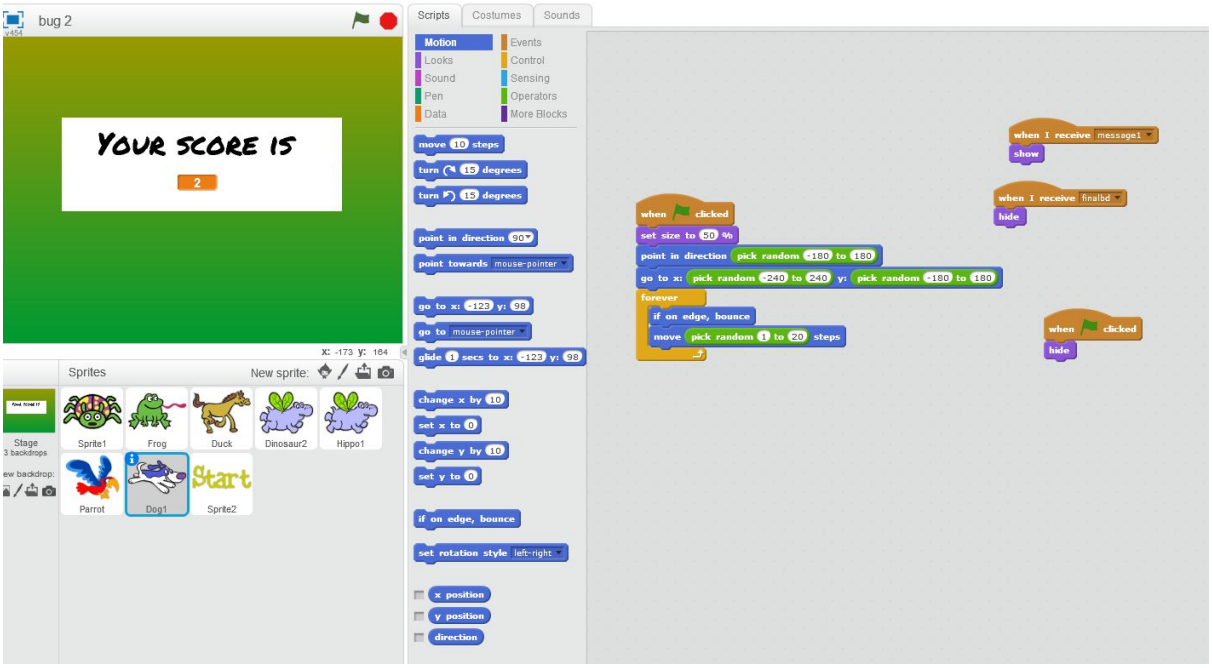

YOUR SCORE IS
2
Sprites
New sprite:
Stage
3 backdrops
New backdrop:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Start
Sprite2
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: 130 y: -104
go to mouse-pointer
glide 1 secs to x: 130 y: -104
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
when I receive finalbd
hide
when clicked
hide
when clicked
set size to 50 %
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when I receive message1
show

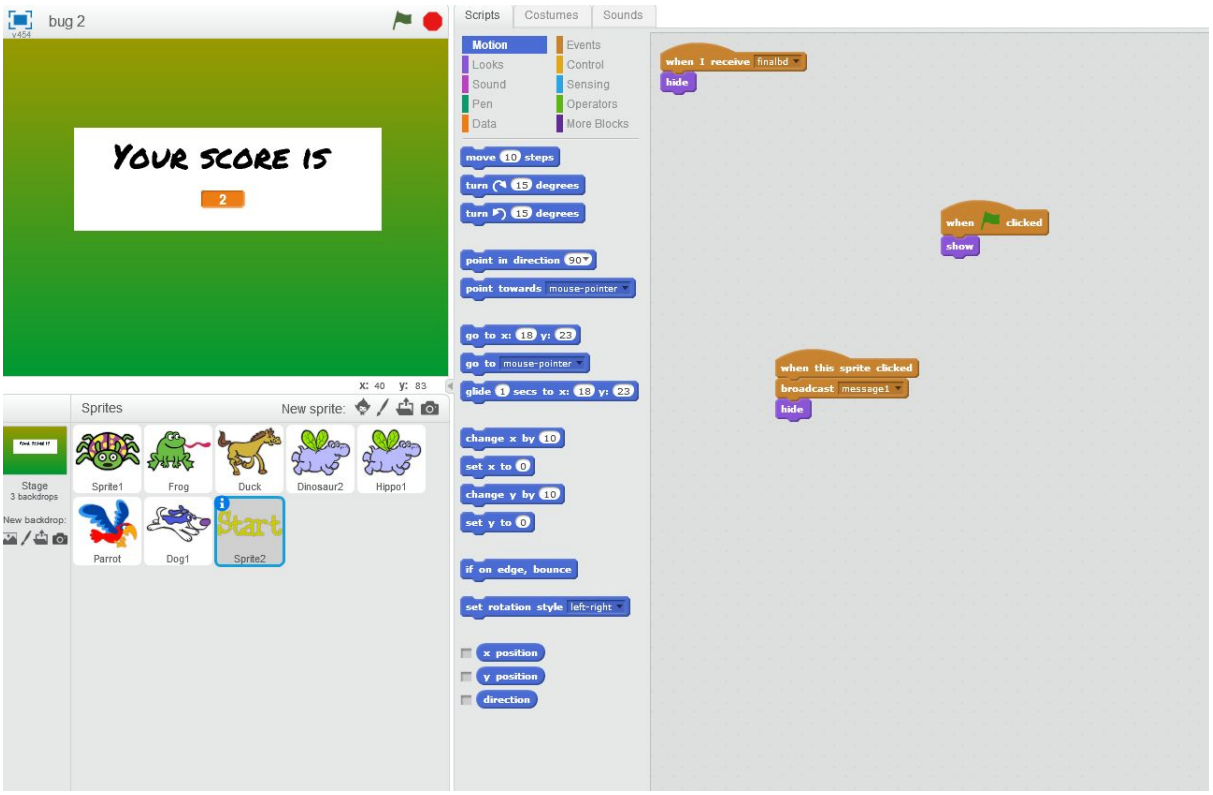

YOUR SCORE IS
2
Sprites
New sprite:
Stage
3 backdrops
New backdrop:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Start
Sprite2
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: -204 y: 25
go to mouse-pointer
glide 1 secs to x: -204 y: 25
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when I receive finalbd
hide
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when I start as a clone
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when clicked
hide
when I receive message1
forever
wait 2 secs
next costume
create clone of myself
change costumes by 1
if costumes > 10 then
stop this script


YOUR SCORE IS
2
Sprites
New sprite:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Sprite2
Start
Stage
3 backdrops
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: -60 y: -137
go to mouse-pointer
glide 1 secs to x: -60 y: -137
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when clicked
set size to 50 %
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when I receive message1
show
when clicked
hide
when I receive finalbd
hide
when I start as a clone
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when I receive message1
forever
wait 2 secs
next costume
create clone of myself
change costumes by 1
if costumes > 10 then
stop this script


bug 2
YOUR SCORE IS
2
Sprites
New sprite:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Sprite2
Start
Stage
3 backdrops
New backdrop:
Scripts
Costumes
Sounds
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: 192 y: -27
go to mouse-pointer
glide 1 secs to x: 192 y: -27
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when I receive message1
show
when clicked
hide
when clicked
set size to 50 %
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when I receive finalbd
hide


YOUR SCORE IS
2
Sprites
New sprite:
Stage
3 backdrops
New backdrop:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Sprite2
Start
x: -102 y: -21
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: -82 y: -117
go to mouse-pointer
glide 1 secs to x: -82 y: -117
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when clicked
set size to 40 %
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when I receive finalbd
hide
when I receive message1
show
when clicked
hide


bug 2
YOUR SCORE IS
2
Scripts
Costumes
Sounds
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: -123 y: 98
go to mouse-pointer
glide 1 secs to x: -123 y: 98
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when I receive message1
show
when I receive finalbd
hide
when clicked
set size to 50 %
point in direction pick random -180 to 180
go to x: pick random -240 to 240 y: pick random -180 to 180
forever
if on edge, bounce
move pick random 1 to 20 steps
when clicked
hide
Sprites
New sprite:
Stage
3 backdrops
New backdrop:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Sprite2
x: -173 y: 164


bug 2
YOUR SCORE IS
2
Scripts
Costumes
Sounds
Motion
Looks
Sound
Pen
Data
Events
Control
Sensing
Operators
More Blocks
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards mouse-pointer
go to x: 18 y: 23
go to mouse-pointer
glide 1 secs to x: 18 y: 23
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
set rotation style left-right
x position
y position
direction
when I receive finalbd
hide
when clicked
show
when this sprite clicked
broadcast message1
hide
Sprites
New sprite:
Stage
3 backdrops
New backdrop:
Sprite1
Frog
Duck
Dinosaur2
Hippo1
Parrot
Dog1
Sprite2
x: 40 y: 83