

Projects to try to get started with Scratch.

Square Project

A square is drawn by moving and turn left 4 times while the pen is down.

Algorithm

Draw a pencil sprite

Set center of sprite

Name the sprite Pencil

Procedures

Start

set pen color

set pen size

pen down

clear

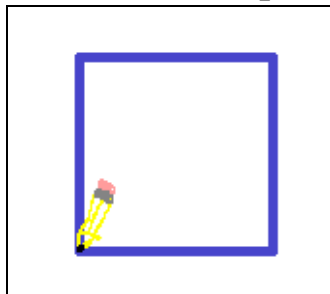
Repeat 4

-move 100

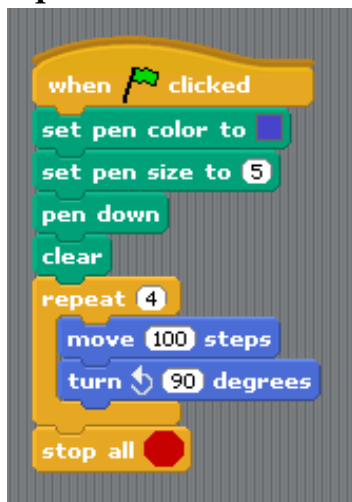
-turn 90 left

End

Screen Shot of Square



Square Code



Doily Project

Start with the Box

Algorithm

Start

set pen color

set pen size

pen down

clear

Repeat 36

Repeat 4

-move 100

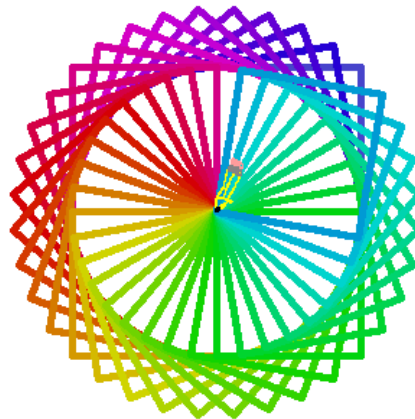
-turn 90 left

turn left 10

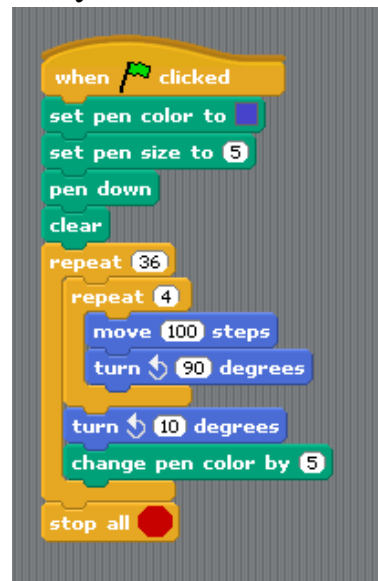
change pen color ____

End

Doily Screen Shot



Doily Code



Circle Project

A circle is made by moving and turning until back to beginning.

Algorithm

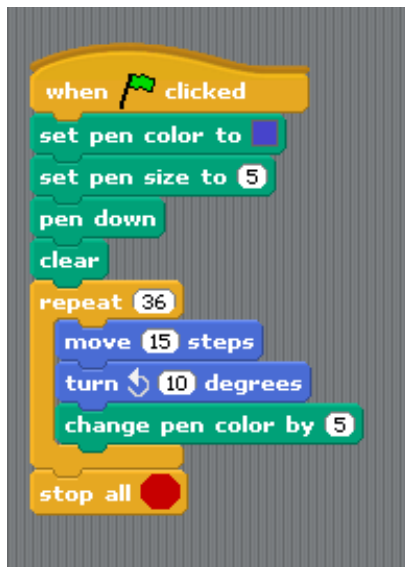
```

Start
  set pen color
  set pen size
  pen down
  clear
  Repeat 36
    -move 5
    -turn 10 left
End
    
```

Circle Screen Shot



Circle Code



Pen Draw Project

When the mouse is moved with the mouse clicked it will draw.

Algorithm

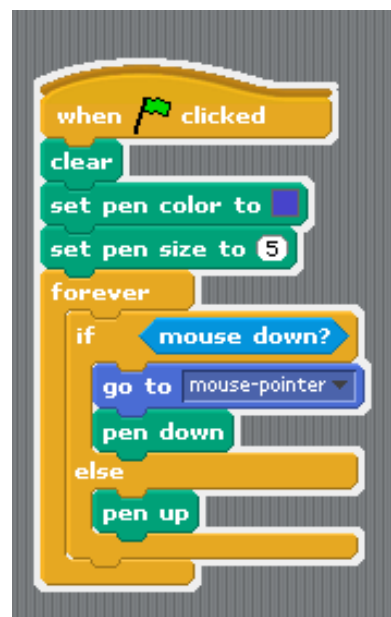
```

Use a pencil sprite
Start
  clear
  set pen color ---
  set pen size ---
  Forever
    - if (mousedown?)
      -- go to (mousepointer)
      -- pen down
    - else
      -- pen up
    
```

Pen Draw Screen Shot



Pen Draw Code



Summation Project

This program find sthe sum of all the numbers between 0 and a given number. A loop is used to add the next number to the sum until finished.

Algorithm

Make Variables

- Number
- Counter
- Sum

Start

- Say (I am going to find the sum of all the numbers between 0 and your Number.

- set Number to _____
- set Counter to 0
- set Sum to 0
- Repeat (Number)
 - change Counter by 1
 - change Sum by Counter
- Say (Sum)

Stop

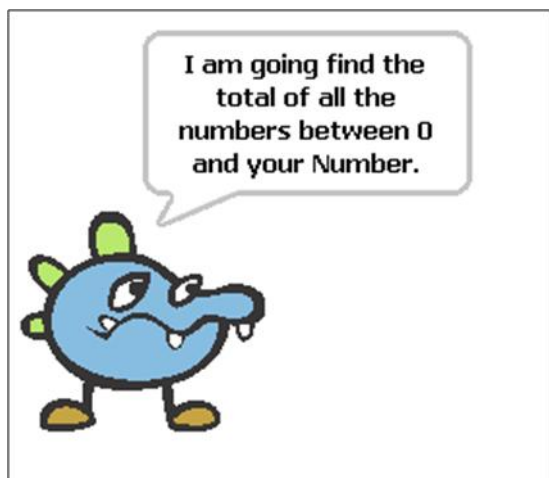
Summation Screen Shots

Double click on the Number variable until it becomes a slider.

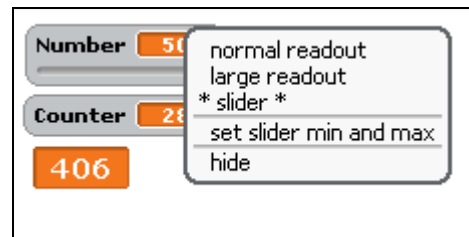
Double click on the Sum variable twice until it becomes a large number display.

Right mouse click on a slider variable to set the min and max for the slider.

Beginning screen



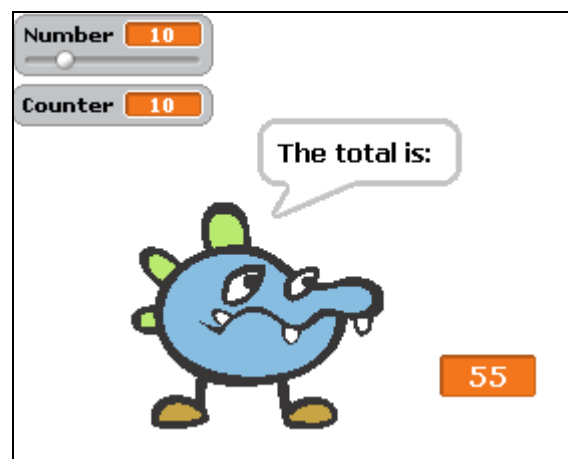
Adjusting the variable and setting a min and max for the Number variable slider.



Finished code:



Final screen with the Sum of the numbers between 0 and 10.



Prime Number Project

A number is entered and then it is divided by all the numbers from 2 to the number. If it divides evenly then it is not a prime number. If the number is only divisible by the last counter then the number is a prime number.

Algorithm

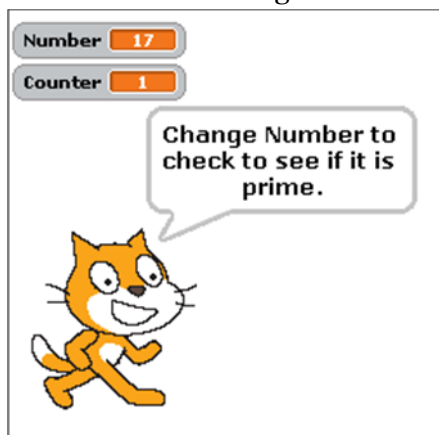
Start

```

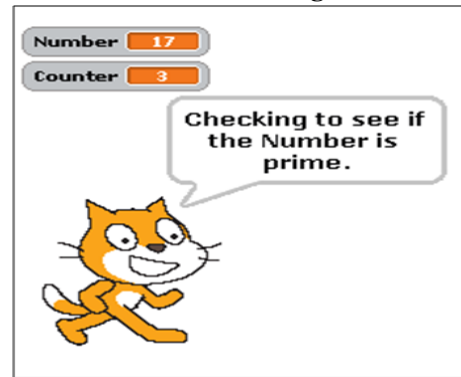
set Counter to 1
set Yes to 1
set No to 0
set Done to No
say "Change Number?" for 5 sec
set Number to _____
say "Checking to see if it is Prime."
if (Number <= 1)
  say "Not Prime."
else
  repeat until (Done = Yes)
    change Counter by 1
    if (Number mod Counter = 0)
      set Done to Yes
  if (Number = Counter)
    say "Prime Number!"
  else
    say "Not a Prime Number."
    
```

Screen Shots

Screen Shot of Asking for a Number



Screen Shot of Checking



Screen Shot of Finding a Prime Number



Prime Number Code

