



## Initialization code: get files from the internet

```
In [1]: !wget https://raw.githubusercontent.com/ivpcl/REVISION-3-Level-1-2019-English/main/Level1-Projects/AOLME_Fraction_v2.py
!wget https://raw.githubusercontent.com/ivpcl/REVISION-3-Level-1-2019-English/main/Level1-Projects/Bob.jpg
from AOLME_Fraction_v2 import FrV
from IPython.display import HTML

--2023-03-16 16:58:22-- https://raw.githubusercontent.com/ivpcl/REVISION-3-Level-1-2019-English/main/Level1-Projects/AOLME_Fraction_v2.py
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 47739 (47K) [text/plain]
Saving to: 'AOLME_Fraction_v2.py'

AOLME_Fraction_v2.p 100%[=====>] 46.62K --.-KB/s in 0.01s

2023-03-16 16:58:22 (3.93 MB/s) - 'AOLME_Fraction_v2.py' saved [47739/47739]

--2023-03-16 16:58:22-- https://raw.githubusercontent.com/ivpcl/REVISION-3-Level-1-2019-English/main/Level1-Projects/Bob.jpg
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.110.133, 185.199.108.133, 185.199.109.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 37538 (37K) [image/jpeg]
Saving to: 'Bob.jpg'

Bob.jpg                100%[=====>] 36.66K --.-KB/s in 0.004s

2023-03-16 16:58:22 (9.59 MB/s) - 'Bob.jpg' saved [37538/37538]
```

## Making and Downloading Videos with Fraction Objects

The fraction objects can be used to make videos.

**After we create the pictures**, the following code creates and displays a video.

The video is specified by assigning two variables:

```
video_name = "myvideo.mp4"  
my_fps = 1.0
```

The `video_name` defines the name of the video file. This file is stored on your local directory.

The variable `my_fps` refers to the number of frames per second that we will display the video. Thus, `my_fps=1` means that the video will be displayed at the rate of one frame every second.

Once the video has been created, the fraction objects have a special function called `CreateVideo(video_name, fps=my_fps)` that creates the video.

To display the video on your browser, we need to pass the video output to the `HTML()` function as given by:

```
HTML(frac.CreateVideo(video_name, fps=0.5))
```

Once the video is created, you can click on it's window to download and save it.

Run the code below to see how it works.

Adjust the number of frames per second to change how the video appears!

Once you are done, you can download your video.

To download the video, move your mouse over the bottom part of the video and click on download as shown in the icon below

### Video controls



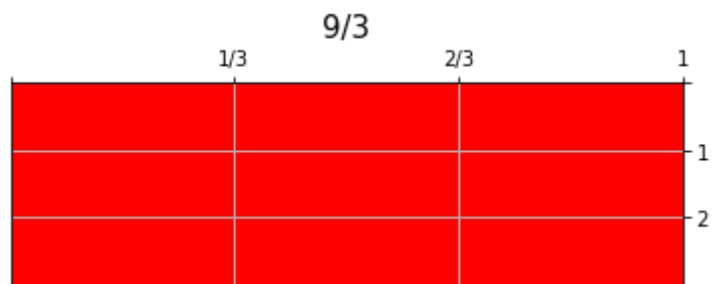
Download File after you click on dots icon :

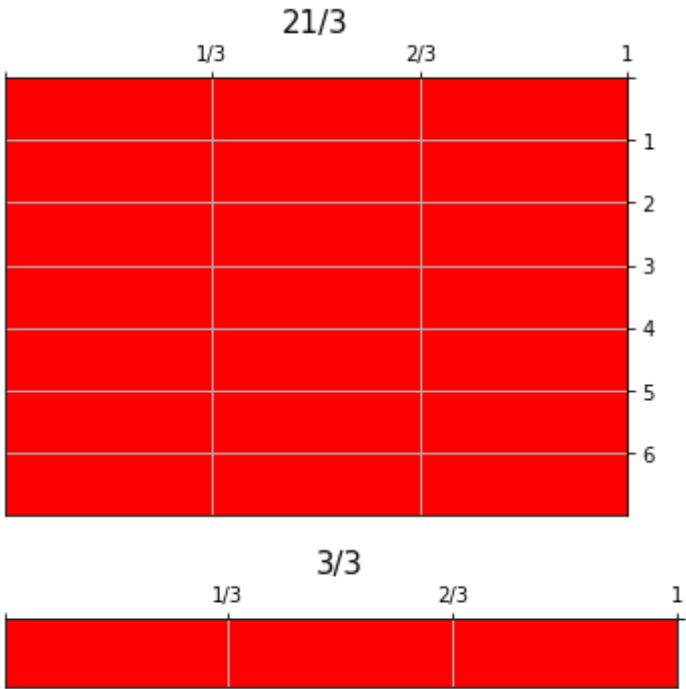


In [ ]:

```
# Video creation demo
frac = FrV()
f1 = frac.AddFrac(9,3 ,comment="9/3")
f2 = frac.AddFrac(21, 3, comment="21/3")
f3 = frac.AddFrac(3, 3, comment="3/3")

# Create and display the video:
video_name = "myvideo.mp4"
my_fps     = 3
HTML(frac.CreateVideo(video_name, fps=my_fps))
```





Compressed myvideo.mp4 into temp\_video.mp4

Out[ ]:



# Creating a video for multiplication

Fractions can create a video of the multiplication process for you!

We specify the multiplication using:

```
c = "Video of 1/3 * 3"
num = 1 # Numerator
den = 3 # Denominator
mult = 3 # Multiplier
```

Here, `c` holds a comment.

As before,  $1/3$  mean the numerator (`num`) is 1 and the denominator (`den`) is 3.

We can then add the video frames to our video using:

```
frac.AddMult(num, den, mult, comment=c)
```

Run the code below to see how it works!

Note that we also have to save and display the video as before.

```
In [ ]: # Create the fraction object
frac = FrV()

# PROJECT QUESTION
c = "Video of 8 1/4 / 3/4"
num = 3 # Numerator
den = 4 # Denominator
mult = 11 # Multiplier
frac.AddMult(num, den, mult, comment=c)

#ADDITIONAL QUESTION 6
#c = "Video of 3 1/3 / 5/6 "
#num = 5 # Numerator
#den = 6 # Denominator
```

```

#mult = 4 # Multiplier
#frac.AddMult(num, den, mult, comment=c)

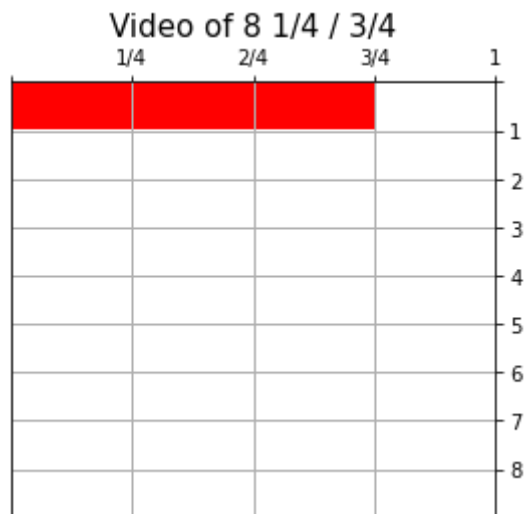
# Three warm up problems
#c = "Video of 1 / 1/4 "
#num = 1 # Numerator
#den = 4# Denominator
#mult = 4 # Multiplier
#frac.AddMult(num, den, mult, comment=c)

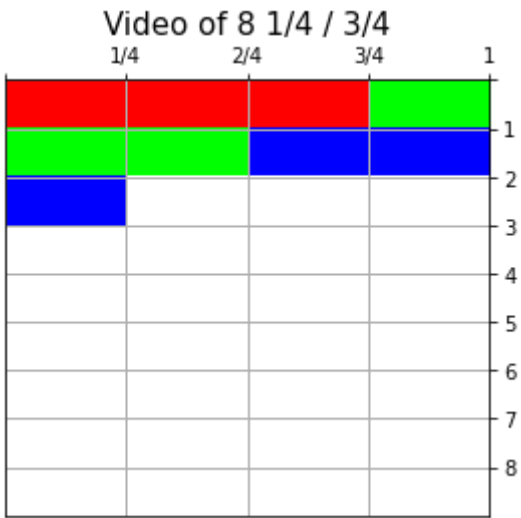
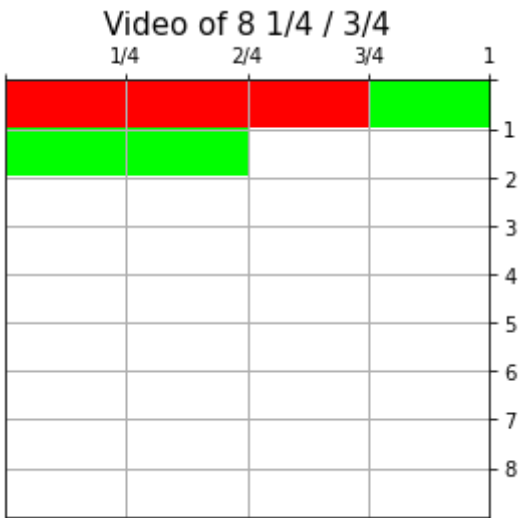
#c = "Video of 5/6 / 1/6 "
#num = 1 # Numerator
#den = 6# Denominator
#mult = 5 # Multiplier
#frac.AddMult(num, den, mult, comment=c)

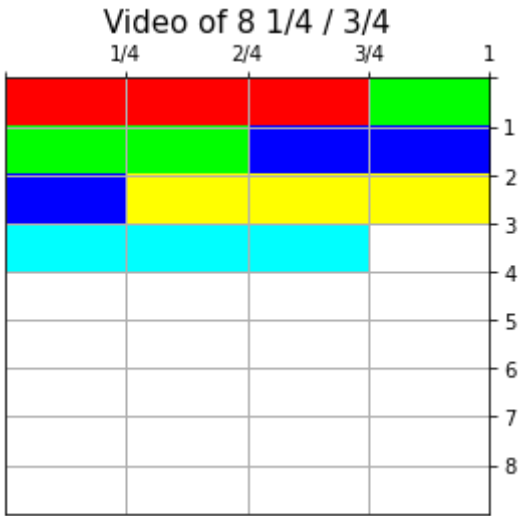
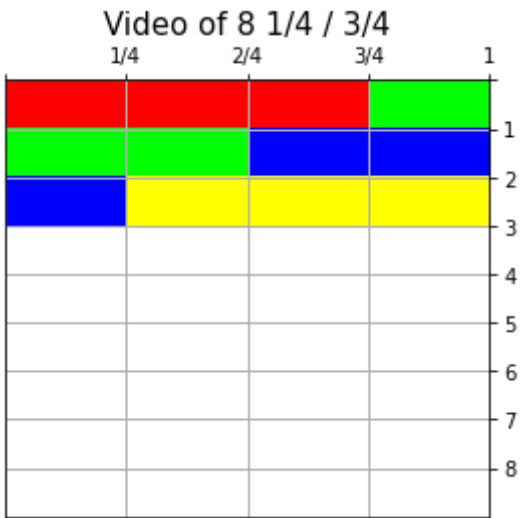
#c = "Video of 3/5 / 1/10 "
#num = 1 # Numerator
#den = 10# Denominator
#mult = 6 # Multiplier
#frac.AddMult(num, den, mult, comment=c)

# Create and display the video:
video_name = "video.mp4"
my_fps = 2
HTML(frac.CreateVideo(video name, fps=my fps))

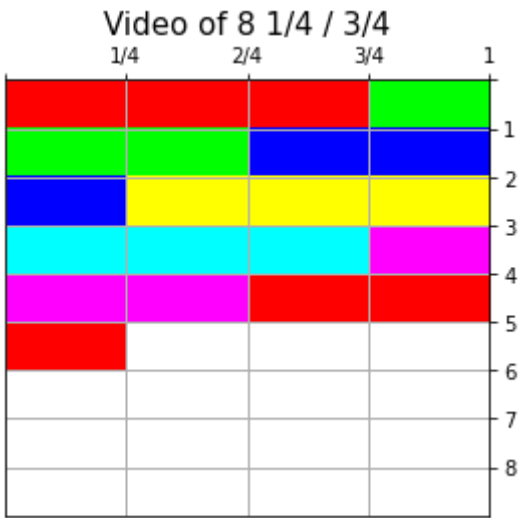
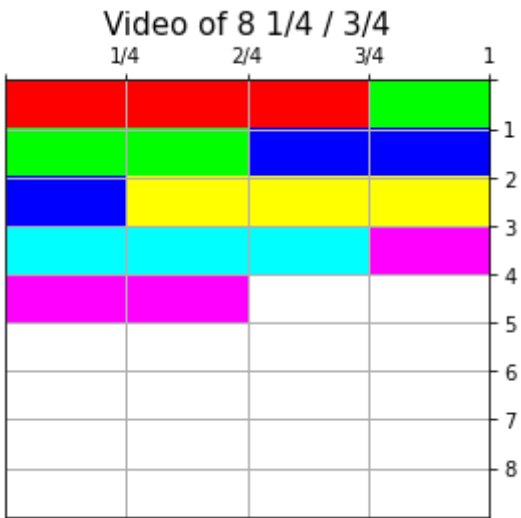
```

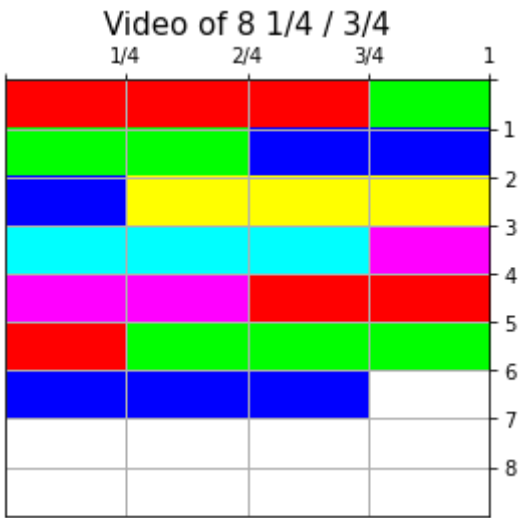
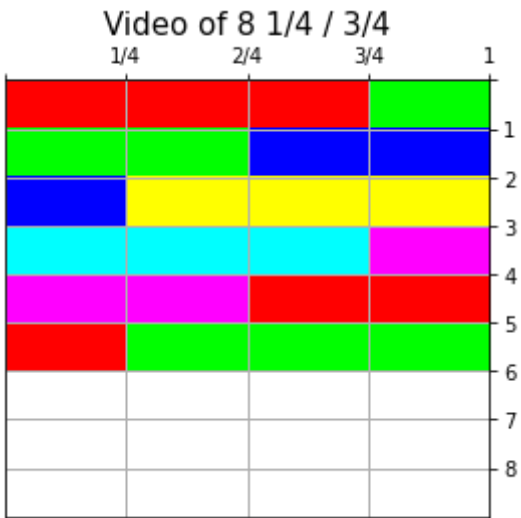


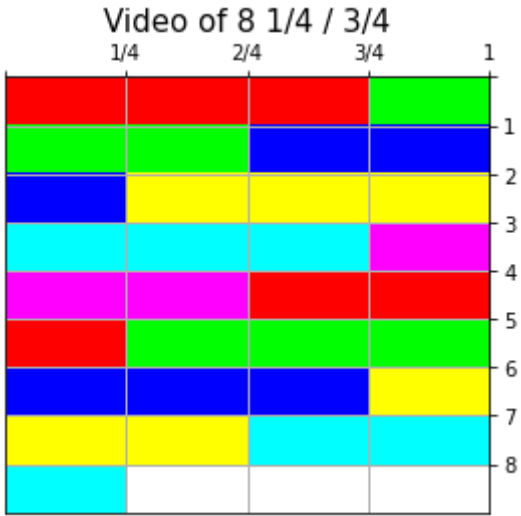
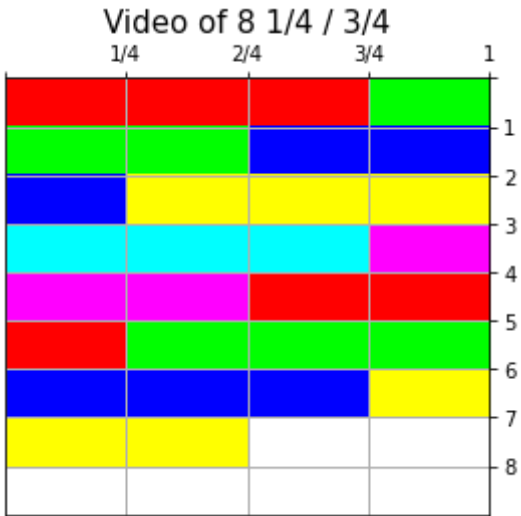












Compressed video.mp4 into temp\_video.mp4

Out[ ]:

0:00 / 0:05

## Adding text to your video

You can add simple text to your video using:

```
my_string = "My name is Mario"  
frac.addTextFrame(text=my_string)
```

Run the code below to see how you can add text.

In [20]:

```
# Create the video object  
frac = FrV()  
  
# Add the name  
my_string = "Our names are Natalia, Sophia and Angel and we're the Chee-Zmonkeyz. We love bananas and cheese so  
frac.addTextFrame(text=my_string)  
  
# Add some more text  
my_string = "We all are cool monkeys that love chee-zbananas! Hehe! Lol quandale dingle is our friend. I love c  
frac.addTextFrame(text=my_string)
```

```
#monkey
frac.insertImage('monkey.jpeg')

#monkey
frac.insertImage('moneyAndSnail.jpeg')

#monkey snail
frac.insertImage('monkeysnaill.png')

# Question
my_string = "A monkeysnaill travels a total of 8 1/4 inches.He moves at a speed of 3/4 inches per minute .How ma
frac.addTextFrame(text=my_string)

# Equation
my_string = "The equation is 8 1/4 / 3/4 =11. The 8 1/4 is the total inches the snail had moved,the 3/4 is the
frac.addTextFrame(text=my_string)

# Explanation
my_string = "There is 8 wholes in 8 1/4, you can make 8 boxes of 4th's. Fill in all the 8 boxes or wholes, make
frac.addTextFrame(text=my_string)

# PROJECT QUESTION
#c = "Video of 8 1/4 / 3/4"
c = "Video of 33/4 / 3/4"
num = 3 # Numerator
den = 4# Denominator
mult = 11 # Multiplier
frac.AddMult(num, den, mult, comment=c)

# Display the video:
video_name = "video.mp4"
HTML(frac.CreateVideo(video_name, fps=0.2))
```

Our names are Natalia, Sophia and Angel and we're the Chee-Zmonkeyz. We love bananas and cheese so much! We are goofy! Lol, so funny haha!

We all are cool monkeys that love chee-zbananas! Hehe! Lol quandle dingle is our friend. I love cheese its really good especially on beansssssss. big dog bob



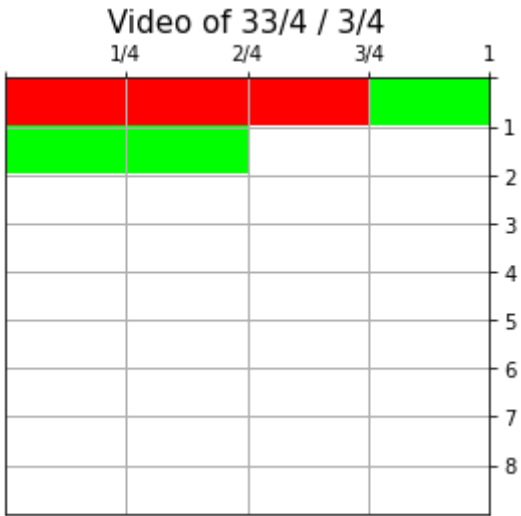
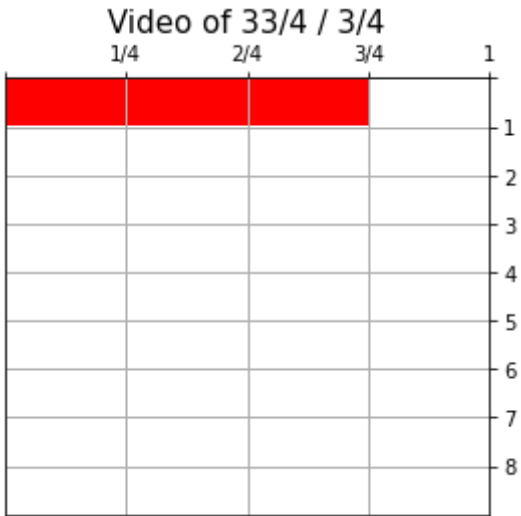


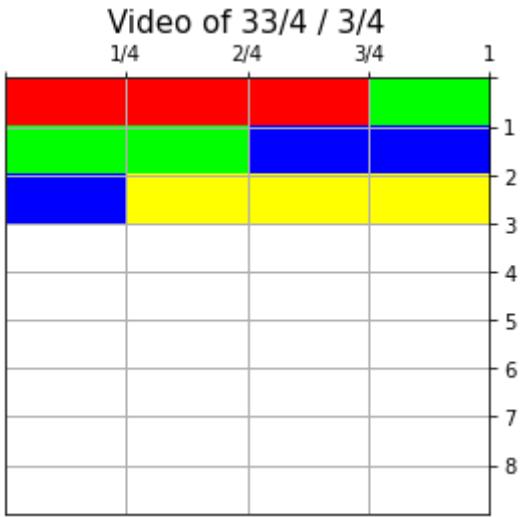
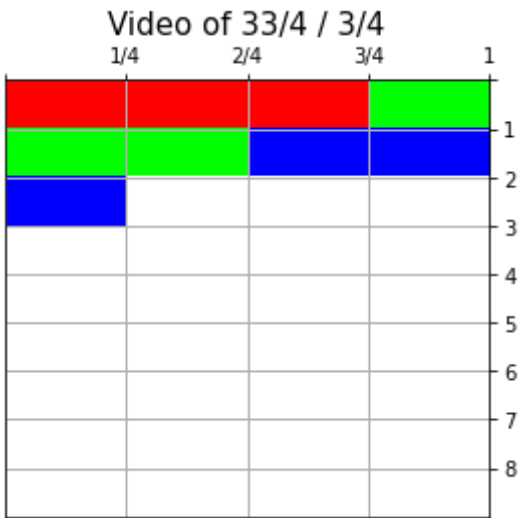
A monkeysnail travels a total of  $8 \frac{1}{4}$  inches. He moves at a speed of  $\frac{3}{4}$  inches per minute. How many minutes did he travel for?

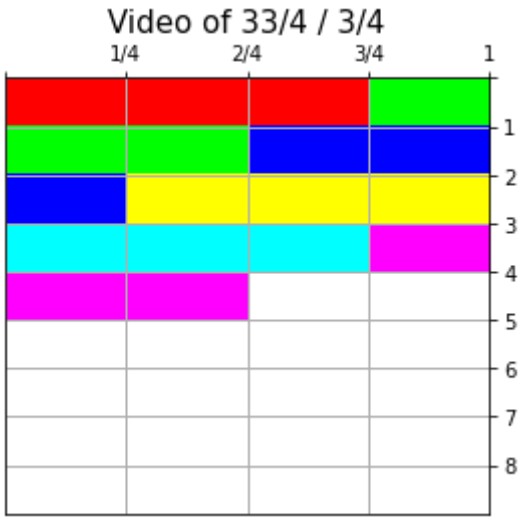
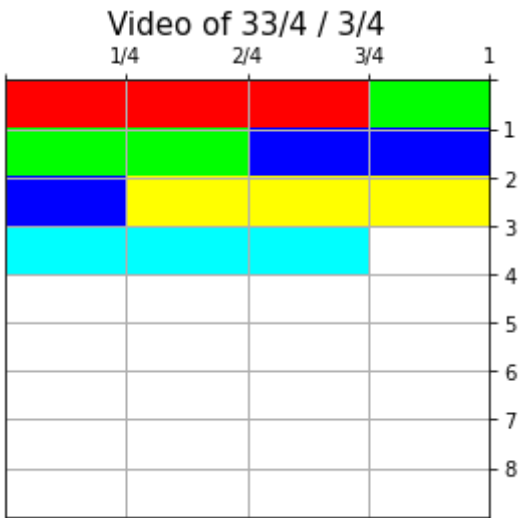


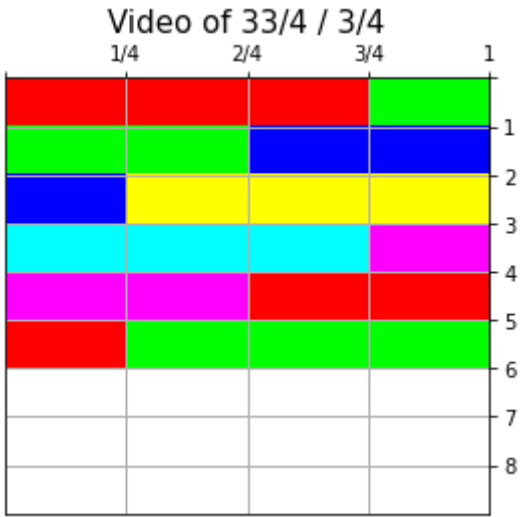
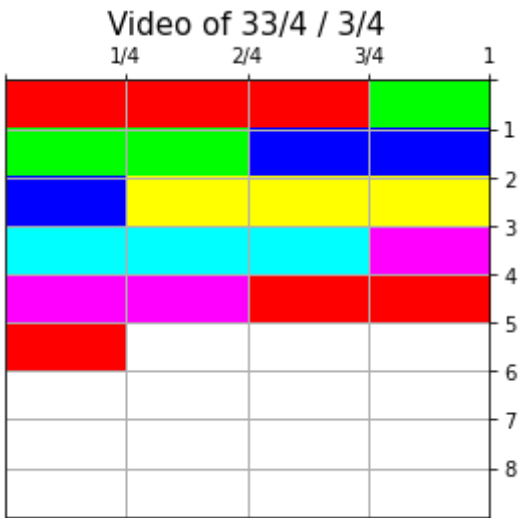
The equation is  $8 \frac{1}{4} \div \frac{3}{4} = 11$ . The  $8 \frac{1}{4}$  is the total inches the snail had moved, the  $\frac{3}{4}$  is the amount of the snail monkey's speed per minute, the 11 means how much the snail monkey had traveled.

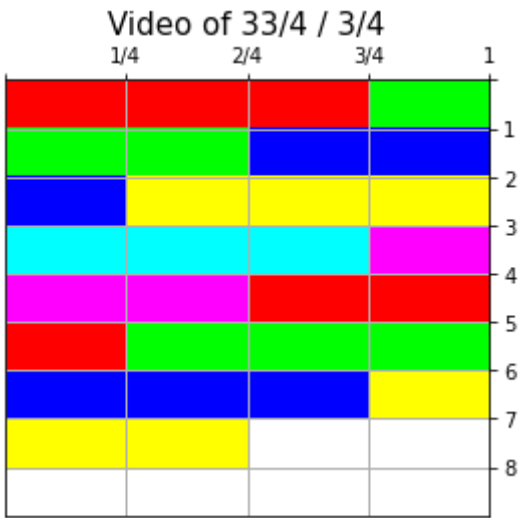
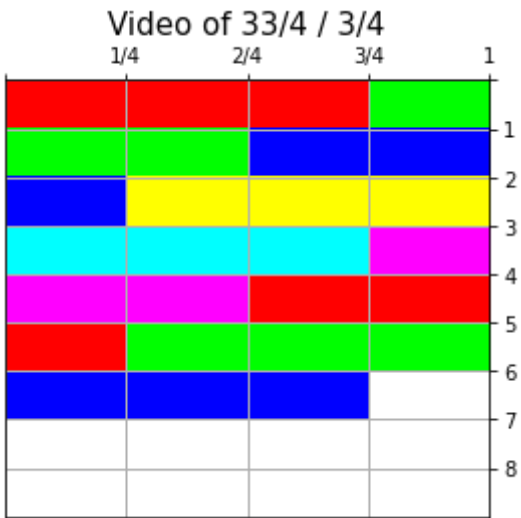
There is 8 wholes in  $8 \frac{1}{4}$ , you can make 8 boxes of 4th's. Fill in all the 8 boxes or wholes, make an extra box and fill in 1 square. The total is 33 squares filled in. There're 11 groups of  $\frac{3}{4}$  are in  $8 \frac{1}{4}$ .

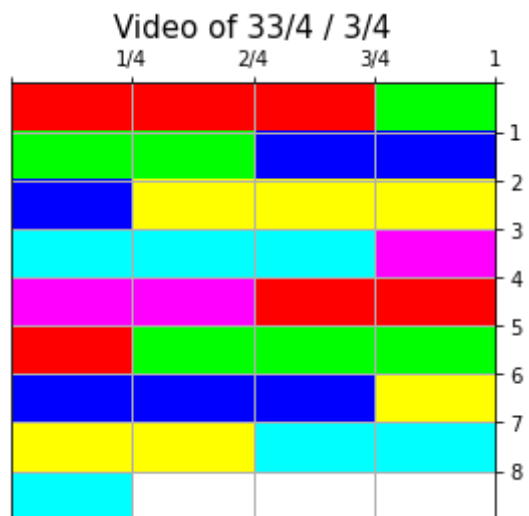












Compressed video.mp4 into temp\_video.mp4

Out[20]:

0:00 / 1:35

## Adding long texts with multiple lines

You can add multiple lines of text using `\n` at the end of each line. After that, you need to start at the beginning of the following line.

Thus, the following code adds a long string with multiple lines:

```
my_string = "Fraction Division Assignment\n \n \n\nMarios S. Pattichis and Sylvia Celedon-Pattichis\n \n \n\nMarch 28, 2023"\nfrac.addTextFrame(text=my_string)
```

**Make sure that there is no extra space after \**

Modify the code below to write your own message.

```
In [ ]: # Create the video object\nfrac = FrV()\n\n# Add some text\nmy_string = "Fraction Division Assignment\n \n \n\nMarios S. Pattichis and Sylvia Celedon-Pattichis\n \n \n\nMarch 28, 2023"\nfrac.addTextFrame(text=my_string)\n\n# Display the video:\nHTML(frac.CreateVideo(video_name, fps=0.25))
```

```
Fraction Division Assignment\nMarios S. Pattichis and Sylvia Celedon-Pattichis\nMarch 28, 2023
```

Compressed video.mp4 into temp\_video.mp4



Out[ ]:

0:00 / 0:04

## Adding pictures to your video

You can add JPEG images to your videos.

To do this, simply upload the image to your local directory.

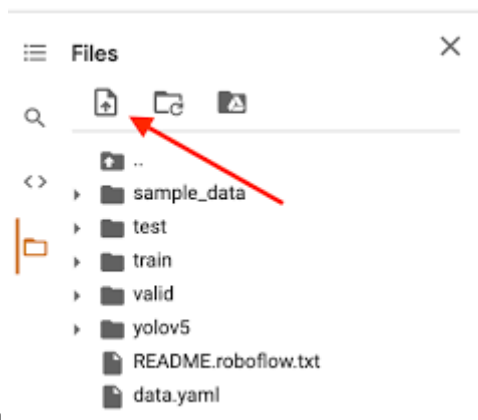
This is done using:

1. Click on the folder icon on the left of your browser.



### Folder icon

1. Click on file upload icon to upload your picture.



### Upload file icon

In the code, you need to add a line with the name of your image file:

```
frac.insertImage('my_image_filename.jpg')
```

Try the code below and see how it works.

```
In [ ]: frac = FrV()  
  
frac.insertImage('Bob.jpg')  
  
# Create a video
```

```
video_name = "video.mp4"  
HTML(frac.CreateVideo(video_name, fps=1))
```



Compressed video.mp4 into temp\_video.mp4

Out[ ]:

0:00 / 0:01

## Putting it all together

In [ ]:

```
# Demo 5/6 / 1/6
frac = FrV()

my_string = "Video demonstrates that\n 5/6 divided by 1/6 is 5.\n \
Marios S. Pattichis and Sylvia Celedon-Pattichis.\n \
March 28, 2023"
frac.addTextFrame(text=my_string)

frac.insertImage('Bob.jpg')

my_string = "First, we show 5/6."
```

```
frac.addTextFrame(text=my_string)
frac1 = frac.AddFrac(5, 6, comment="5/6")

my_string = "Second, we show 1/6."
frac.addTextFrame(text=my_string)
frac.AddFrac(1, 6, comment="1/6")

my_string = "We multiply 1/6 5 times\n \
to get 5/6."
frac.addTextFrame(text=my_string)
frac.AddMult(1, 6, 5, comment = '5*1/6 is 5/6')

my_string = "Thank you :-)"
frac.addTextFrame(text=my_string)

HTML(frac.CreateVideo(video_name, fps=0.5))
```

Video demonstrates that

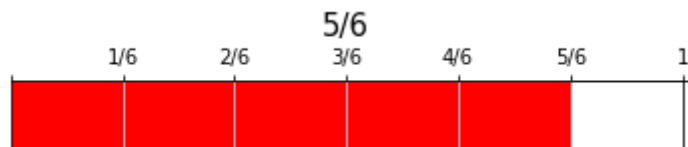
$5/6$  divided by  $1/6$  is 5.

Marios S. Pattichis and Sylvia Celedon-Pattichis.

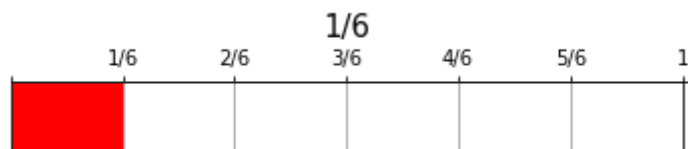
March 28, 2023



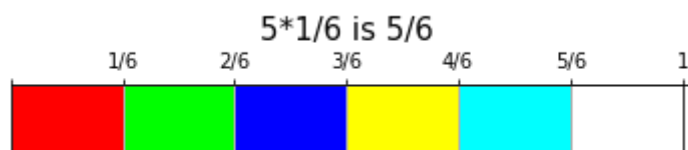
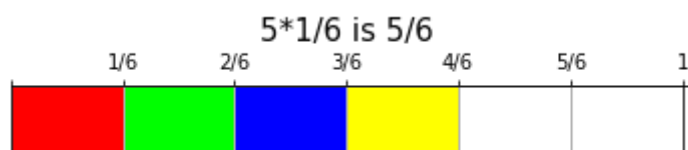
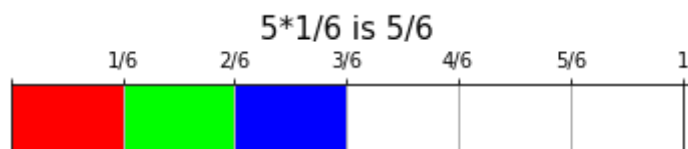
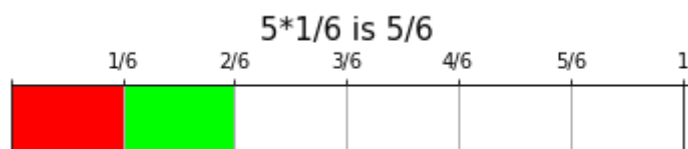
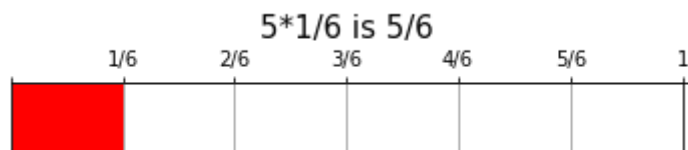
First, we show  $5/6$ .



Second, we show  $1/6$ .



We multiply  $1/6$  5 times  
to get  $5/6$ .



Thank you :-)



Out[ ]:

0:00 / 0:26



In [ ]: