In [12]:
```python
import cv2
import os
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
```

In [19]:
```python
def mean_brightness(img):
    hsv = cv2.cvtColor(img, cv2.COLOR_BGR2HSV) #convert it to hsv
    return np.mean(hsv[:,:,2])
```

In [20]:
```python
lst = os.listdir('data/toy_store_4_/resize5')
dct = {}
for img_name in lst:
    if not os.path.isdir(img_name):
        img = cv2.imread(os.path.join('data/toy_store_4_/resize5', img_name))
        dct[img_name] = mean_brightness(img)
df = pd.Series(dct)
display(df.argmin(), df.values.min())
display(df.argmax(), df.values.max())
```

C:\Users\xinrui zhan\Anaconda3\lib\site-packages\ipykernel_launcher.py:8: Futur
eWarning:
The current behaviour of 'Series.argmin' is deprecated, use 'idxmin'
instead.
The behavior of 'argmin' will be corrected to return the positional
minimum in the future. For now, use 'series.values.argmin' or
'np.argmin(np.array(values))' to get the position of the minimum
row.

'218.jpg'

32.847065864389236

C:\Users\xinrui zhan\Anaconda3\lib\site-packages\ipykernel_launcher.py:9: Futur
eWarning:
The current behaviour of 'Series.argmax' is deprecated, use 'idxmax'
instead.
The behavior of 'argmax' will be corrected to return the positional
maximum in the future. For now, use 'series.values.argmax' or
'np.argmax(np.array(values))' to get the position of the maximum
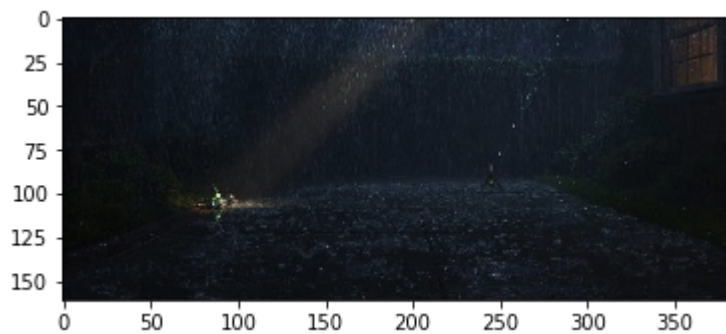row.
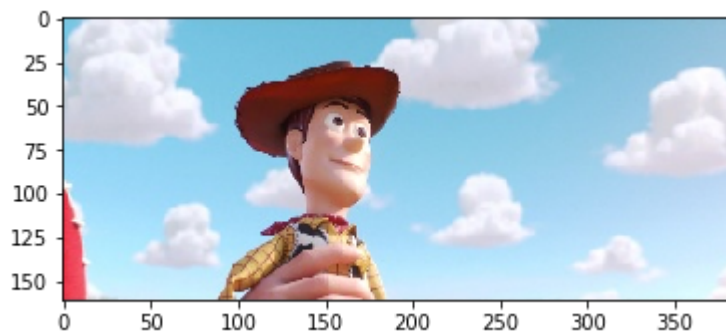   if __name__ == '__main__':

'613.jpg'

226.24880305383022

In [21]: `plt.imshow(cv2.imread('data/toy_store_4_/resize5/218.jpg')[:,:,::-1])`

Out[21]: `<matplotlib.image.AxesImage at 0x210afaa0940>`

In [22]: `plt.imshow(cv2.imread('data/toy_store_4_/resize5/613.jpg')[:,:,::-1])`

Out[22]: `<matplotlib.image.AxesImage at 0x210afb03470>`

In [ ]: