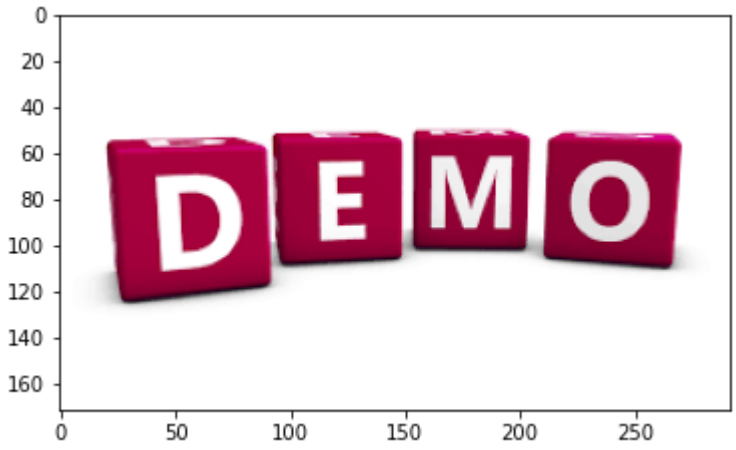
1806554 Ganesh Bhandarkar Python Assignment 4

1

In [157…

```
# 1 method
import matplotlib.pyplot as plt
import cv2
i = cv2.imread('demo.png')
plt.imshow(i)
# 2 method
out = cv2.imshow('Image Output',i)
cv2.waitKey(0)
cv2.destroyAllWindows()
# 3 method
from PIL import Image
im = Image.open(r"demo.png")
im.show()
```



2

In [6]:

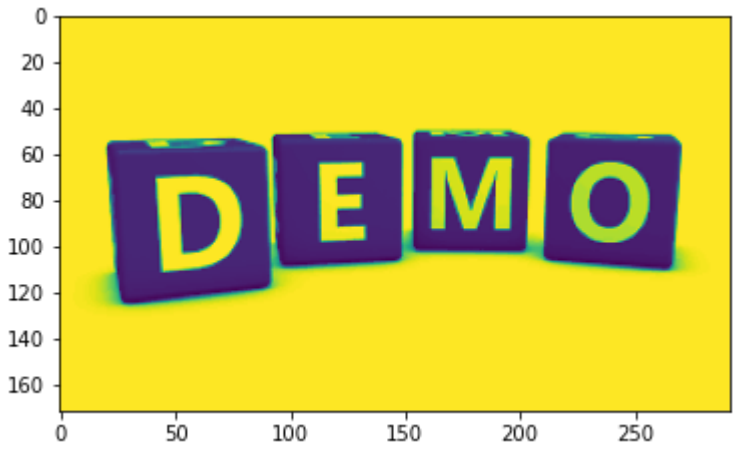
```
i.shape
```

Out[6]: (172, 292, 3)

3

In [7]:
```
gi = cv2.cvtColor(i, cv2.COLOR_BGR2GRAY)
plt.imshow(gi)
```

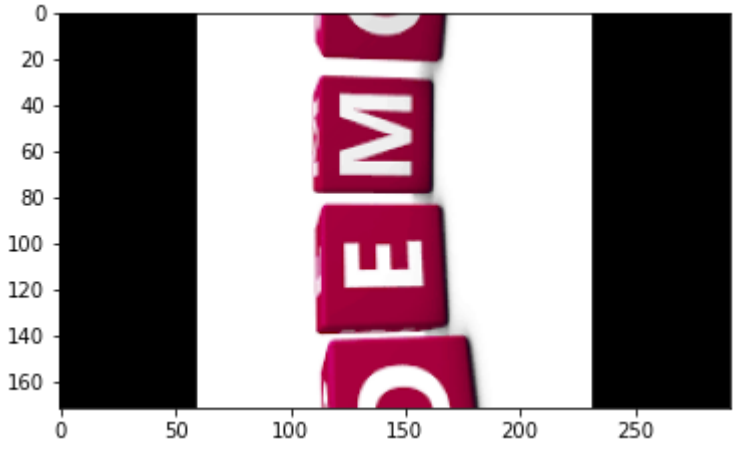
Out[7]: <matplotlib.image.AxesImage at 0x1abd0295310>



4

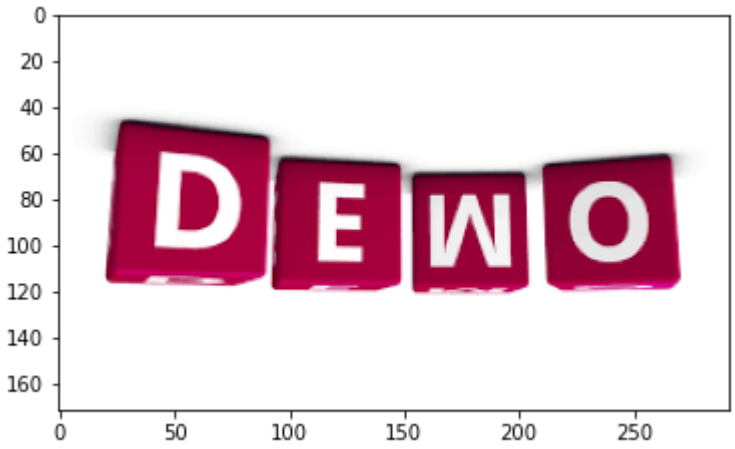
In [15]:
```
import imutils as im
ih = im.rotate(i,90)
plt.imshow(ih)
```

Out[15]: <matplotlib.image.AxesImage at 0x1abd0815e50>



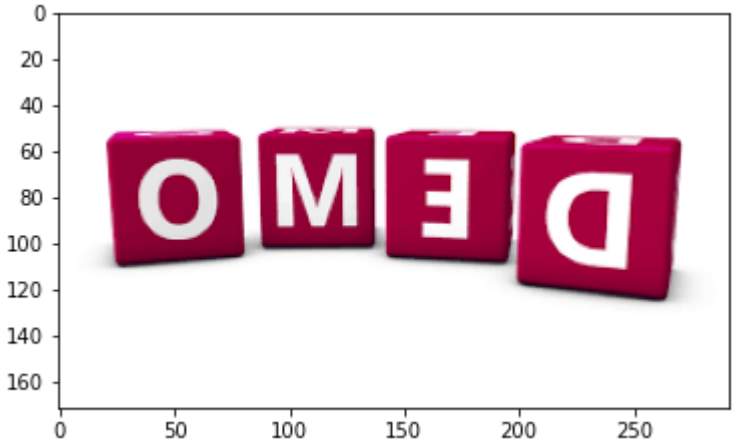
In [20]:
```
# vertical flip
iv = cv2.flip(i,0)
plt.imshow(iv)
```

Out[20]: <matplotlib.image.AxesImage at 0x1abd072a5e0>



In [21]:
```
# horizontal flip
iv = cv2.flip(i,1)
plt.imshow(iv)
```

Out[21]: <matplotlib.image.AxesImage at 0x1abd1306790>



5

In [23]:
```
# resize
new_size = 100
ds = (i.shape[1],new_size)
output = cv2.resize(i, ds, interpolation = cv2.INTER_AREA)
plt.imshow(output)
```

Out[23]: <matplotlib.image.AxesImage at 0x1abd11b2160>