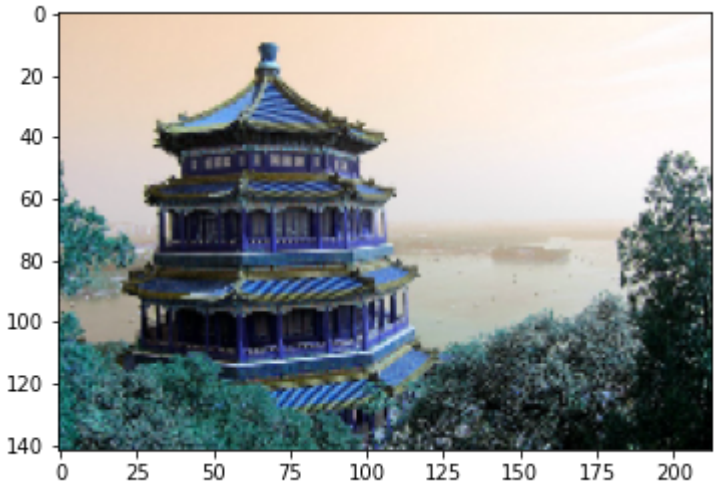
In [12]:

```
#과제1

ch_img = cv.imread("china.jpg")

r, c = ch_img.shape[:2]
ch_new_img = cv.resize(ch_img, (c//3, r//3))
plt.imshow(ch_new_img)
plt.plot()
```

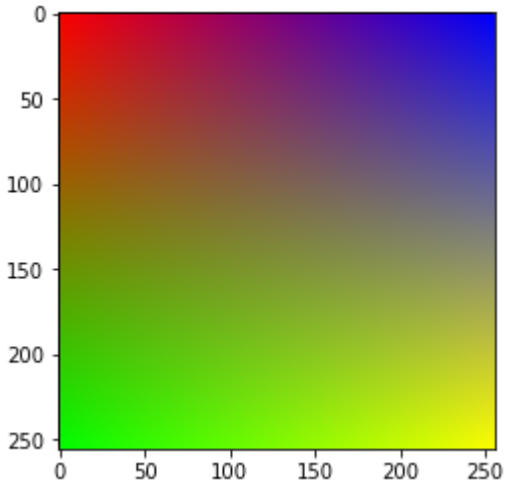
Out[12]:

```
[]
```



In [13]:

```
#과제 2번

def color_rectt():
    g = np.zeros((256,256,3), np.uint8)
    g[255,0,:] = (0, 0, 255) #RED
    g[255,255,:] = (255,0,0)#B
    g[0,0,:] = (0,255,0)#G
    g[0,255,:] = (0,255,255)#Y

    for i in range(1,256):
        for j in range(1,256):
            a = i / (256)
            b = (256-i)/(256)
            p = j/(256)
            q = (256-j)/(256)

            g[i,j,:] = (q*b*g[255,0,:]) + (q*a*g[0,0,:]) + (p*b*g[255,255,:]) + (p*a*g[0,255,

    return g

img = color_rectt()
img = cv.cvtColor(img, cv.COLOR_BGR2RGB)
plt.imshow(img)
plt.show()

```



In [14]:

```
#과제 2번 다른 방법으로 풀어봤습니다.

def color_recttt():
    #COLOR_RECTANGLE 생성

    h = 256
    w = 256
    bgr = np.zeros((h,w,3), np.uint8)
    for i in range(h):
        for j in range(w):
            b = (255-i) * j // 256
            g = 255*i // 256
            r = ((255-i) * (255-j) + i*j) // 256
            bgr[i,j,:]=(b,g,r)

    return bgr

img = color_recttt()
img = cv.cvtColor(img, cv.COLOR_BGR2RGB)

plt.imshow(img)
plt.show()
```