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THUC HANH XU LY ANH LAB1

Import libraries

In [2]:

```
import numpy as np
import math
import matplotlib.pyplot as plt
```

Bai 1:

In [3]:

```
A = np.array([[2, -7, 1], [-6, 2, -3], [4, 3, 2]])
B = np.array([[-1], [0], [2]])
```

In [4]:

```
print("A inner prod B = \n{}".format(np.dot(A, B)))
```

```
A inner prod B =
[[0]
 [0]
 [0]]
```

Bai 2:

In [5]:

```
ran = np.arange(0, 2, 0.1)
```

In [6]:

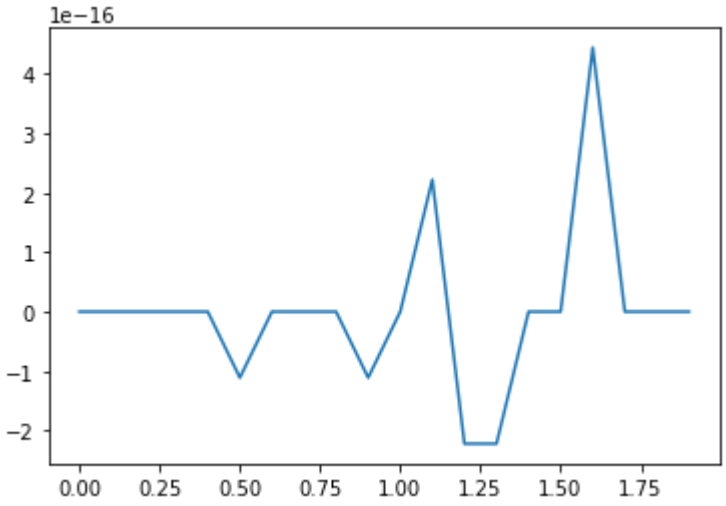
```
f = []
for i in ran:
    f.append(pow(i, i * i) - pow(pow(i, i), i))
```

In [7]:

```
x1 = ran
y1 = f
```

In [9]:

```
plt.plot(x1, y1)
plt.show()
```



Bai 2:

In [10]:

```
ran = np.arange(0, 10, 0.1)
```

In [11]:

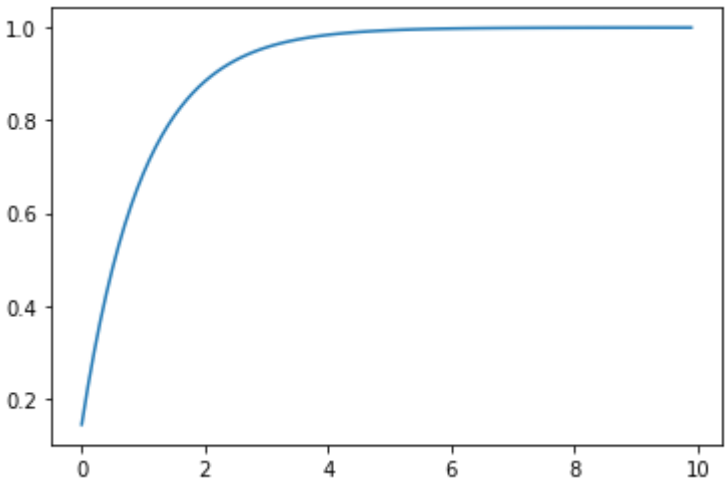
```
f2 = []
for i in ran:
    f2.append(1 - 2 * pow(math.e, -i) * math.sin(2 * math.pi - 35))
```

In [12]:

```
x2 = ran
y2 = f2
```

In [13]:

```
plt.plot(x2, y2)
plt.show()
```



Bai 2:

In [14]:

```
list_sin = []
list_cos = []
list_tan = []
list_x = np.arange(0, 2 * math.pi, math.pi / 16)
```

In [15]:

```
for x in list_x:
    list_sin.append(math.sin(x))
    list_cos.append(math.cos(x))
    list_tan.append(math.tan(x))
```

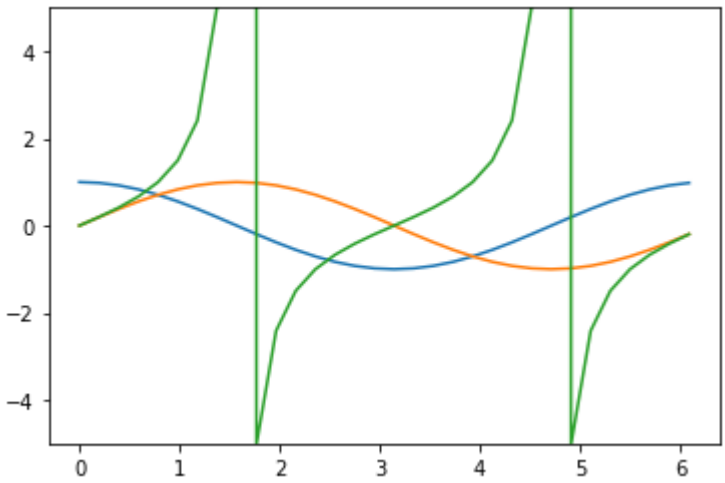
In [16]:

```
print("List tan: {}".format(list_cos))
```

```
List tan: [1.0, 0.9807852804032304, 0.9238795325112867, 0.8314696123
025452, 0.7071067811865476, 0.5555702330196023, 0.38268343236508984,
0.19509032201612833, 6.123233995736766e-17, -0.1950903220161282, -0.
3826834323650897, -0.555570233019602, -0.7071067811865475, -0.831469
6123025453, -0.9238795325112867, -0.9807852804032304, -1.0, -0.98078
52804032304, -0.9238795325112868, -0.8314696123025455, -0.7071067811
865477, -0.5555702330196022, -0.38268343236509034, -0.19509032201612
866, -1.8369701987210297e-16, 0.1950903220161283, 0.38268343236509,
0.5555702330196018, 0.7071067811865474, 0.8314696123025452, 0.923879
5325112865, 0.9807852804032303]
```

In [17]:

```
plt.plot(list_x, list_cos)
plt.plot(list_x, list_sin)
plt.plot(list_x, list_tan)
plt.ylim((-5, 5))
plt.show()
```



In [ ]: