

```

1 import pyquaternion
2
3
4 # Create a quaternion representing a rotation of +90 degrees
  about positive y axis.
5 my_quaternion = pyquaternion.Quaternion(axis=[0, 1, 0],
  degrees=90)
6
7 my_vector = [0, 0, 4]
8 my_rotated_vector = my_quaternion.rotate(my_vector)
9
10 print('\nBasic Rotation')
11 print('-----')
12 print('My Vector: {}'.format(my_vector))
13 print('Performing rotation of {angle} deg about
  {axis}'.format(angle=my_quaternion.degrees,
  axis=my_quaternion.axis))
14 print('My Rotated Vector: {}'.format(my_rotated_vector))
15
16
17 # Create another quaternion representing no rotation at all
18 null_quaternion = pyquaternion.Quaternion(axis=[0, 1, 0],
  angle=0)
19
20 print('\nInterpolated Rotation')
21 print('-----')
22
23 # The following will create a sequence of 9 intermediate
  quaternion rotation objects
24 for q in pyquaternion.Quaternion.intermediates(null_quaternion,
  my_quaternion, 9, include_endpoints=True):
25     my_interpolated_point = q.rotate(my_vector)
26     print('My Interpolated Point: {point}\t(after rotation of
  {angle} deg about {axis})'.format(
27         point=my_interpolated_point, angle=round(q.degrees, 4),
  axis=q.axis
28     ))
29
30 print('Done!')

```

$x, y, z$

$y \hat{z} 90^\circ$

$0, 0, 4$

$y \hat{z} 90^\circ$

Rotation

$1, 0, 0$

$q$ .degrees

$q$ .axis