1. Consider the following module of Python code…

```python
def thing_one(x):
    y = 0
    if x == 1:
        y = x
        x = 2
    if x == 2:
        y = -x
        x = 3
    elif x == 3:
        y = 2 * x
        x = 2 * y
    else:
        y = x
    print('x = ' + str(x))
    print('y = ' + str(y))

def thing_two(l, v):
    for i in range(len(l)):
        l[i] += v
    v = v - 1

def main():
    thing_one(7)
    thing_one(3)
    thing_one(1)
    l = [20, 40, 30]
    v = 6
    thing_two(l, v)
    print('l = ' + str(l))
    print('v = ' + str(v))

if __name__ == '__main__':
    main()

What output is printed when this module is run?
2. Provide short answers (no more than a few sentences) to each of the following questions:

(a) In Python, strings are immutable while lists are mutable. What is the difference?

(b) How does the // operator differ from the / operator? Give an example of where // would be needed.

(c) United Airlines will only allow carry-on bags that are no more than 22 inches long, 14 inches wide, and 9 inches deep. Assuming that variables named length, width, and depth have already been assigned values, write an expression combining the three that evaluates to True if bag fits within those limits, and False otherwise.

3. Write a function named print_big_v (size), where size indicates the size of the pattern that the function will print. Specifically, this function is called with 6 as the argument for size, then it should print the following:

```
\    / \\
\  /   \\
\ /     \\
\     / \\
\   /    \\
\ /     \\
\    / \\
```

That is, the “big V”, made up of forward and backward slash characters, should be 6 rows tall.

4. Write a function named extract_lower (l, v) that, from a list of numbers l finds all of the values less than v, puts them into a new list, and returns that new list.