Hand your completed quiz in before the due date. Do not forget to write down your name and student ID number. Marks will be awarded for this quiz based on the clarity of your answers. The marker will pay close attention to the logic of your answers. Please show all your working.

Q.1 Try the following code. What is wrong?
```python
count = 1
    while count <= 10:
        print(count, end = '')
```

Q.2 A standard science experiment is to drop a ball and see how high it bounces. Once the “bounciness” of the ball has been determined, the ratio gives a bounciness index. For example, if a ball dropped from a height of 10 meters bounces 6 meters high, the index is 0.6, and the total distance traveled by the ball is 16 meters after one bounce. If the ball were to continue bouncing, the distance after two bounces would be $10 + 6 + 6 + 3.6 = 25.6$ meters. Note that the distance traveled for each successive bounce is the distance to the floor plus 0.6 of that distance as the ball comes back up. Write a program that lets the user enter the initial height from which that ball is dropped and the number of times the ball is allowed to continue bouncing. Output should be the total distance traveled by the ball.

Q.3 The German mathematician Gottfried Leibniz developed the following method to approximate the value of $\pi$:

\[
\frac{\pi}{4} = 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \ldots
\]

Write a program that allows the user to specify the number of iterations used in this approximation and that displays the resulting value.