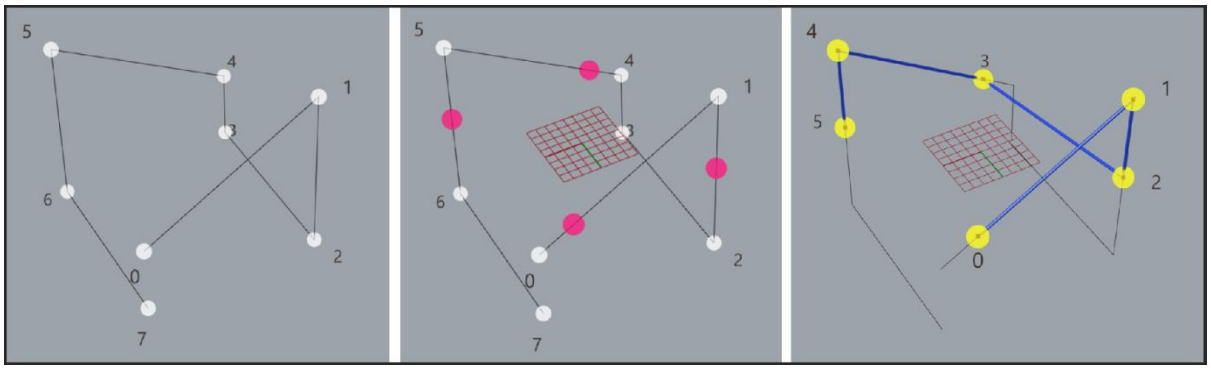
Task 1

1. Using C#, VB or C++, implement a production-standard stringToInteger function, with the following requirements:
    - The function takes a string as the only argument and returns an integer.
    - The function first discards as many whitespace characters as necessary until the first non-whitespace character is found. Then, starting from this character, takes an optional initial plus or minus sign followed by as many base-10 digits as possible, and interprets them as a numerical value.
    - The string can contain additional characters after those that form the integral number, which are ignored and have no effect on the behaviour of this function.
    - If the first sequence of non-whitespace characters in the string is not a valid integral number, or if no such sequence exists because either the string is empty or it contains only whitespace characters, no conversion is performed and zero is returned.
2. Write a comprehensive series of unit tests for the function.
3. The solution should be placed on github. Show evidence of good development practice in your use of git commits and branches.

Task 2

Using C#, VB or C++, develop a function which cuts a Polyline (a collection of Points in 3d) with a Plane. Put the solution on github as above.



- Input parameters: a collection of Points in 3d, a Plane in 3d.
- Output parameters: a collection of Points consisting of all Points in the Polyline which are above the Plane, as well as all Points where the Polyline intersects with the Plane. The output Points should retain the order of the input Polyline.
- the function should be developed from scratch; no use of external libraries to find Intersections is allowed.
- a Point in 3d should be declared as (x, y, z) coordinates
- a Plane in 3d should be described by ax + by + cz + d = 0 equation.