Week 3: Classes

As with other JavaScript language features, TypeScript adds type annotations and other syntax to allow you to express relationships between classes and other types.

Objectives

- OOP in Typescript
- Understanding of SOLID principles

Prework

- Read SOLID - Wikipedia
    - The single-responsibility principle
    - The open–closed principle
    - The Liskov substitution principle
    - The interface segregation principle
    - The dependency inversion principle

Materials

- Classes | TypeScript
- Introduction | Learn TypeScript
- SOLID Principles in TypeScript (2022) | Bits and Pieces

Assessments

Create a new repository on Github on Github `hyf-digitalents-typescript-week3`. Clone your new repository locally on your computer and create the following in the project folders.

- assessment1

Please submit each assessment on Github and update your instructor about the submission.

https://github.com/HackYourFutureBelgium/typescript-week3

Assessment 1: Tic-Tac-Toe

The game is to be played between two people (in this program between HUMAN and COMPUTER).

One of the player chooses ‘O’ and the other ‘X’ to mark their respective cells.

The game starts with one of the players and the game ends when one of the players has one whole row/ column/ diagonal filled with his/her respective character (‘O’ or ‘X’).
If no one wins, then the game is said to be a draw.

Implementation

In our program the moves taken by the computer are chosen randomly from all available moves.

```
                Tic-Tac-Toe

Choose a cell numbered from 1 to 9 as below and play

              1 | 2  | 3
             --------------
              4 | 5  | 6
             --------------
              7 | 8  | 9

-    -    -    -    -    -    -    -    -    -

COMPUTER has put a O in cell 6



                  |    |
             --------------
                  |    | O
             --------------
                  |    |

Please input a cell number:
7
HUMAN has put a X in cell 7
```

```
              |    |
            --------------
              |    | O
            --------------
              X |    |

COMPUTER has put a O in cell 5


              |    |
            --------------
              | O  | O
            --------------
              X |    |

Please input a cell number:
1
HUMAN has put a X in cell 1


              X |    |
            --------------
              | O  | O
            --------------
              X |    |

COMPUTER has put a O in cell 9


              X |    |
            --------------
              | O  | O
            --------------
              X |    | O

Please input a cell number:
8
HUMAN has put a X in cell 8
```

```
              X |    |
             --------------
                | O  | O
             --------------
              X | X  | O

COMPUTER has put a O in cell 4


              X |    |
             --------------
              O | O  | O
             --------------
              X | X  | O

COMPUTER has won
```

Requirements

- Following an Object oriented approach to solving this problem.
- Pay attention to using strict types