5)a) I used a few, but I’ll mention three important ones from my Dnexercise.ts.

Interfaces, for all the different error types and things I get from my html file, were useful as they clearly show the purpose of the things im getting, and group similar items together (e.g. same data type or type of role), reducing errors at runtime.

Type declarations/annotations were also useful, and I could see them being especially useful for large scale software, because they specify the data type of paramaters, variables, return values, etc, and make it easier to understand code. The annotations thus catch any type errors at compilation time as opposed to run time.

I also used typed events, which is similar to type declarations – I mentioned the type of event in my event listeners, and this ensured my logic was appropriate for the type I was handling – if not, typescript would raise an error, e.g. the method I used is not appropriate/valid for this type of event. This prevents runtime errors and improves readability again.

b) Porting my program, as I already had a working solution, so I just had to utilize typescript to improve it. Typescript’s official website was helpful, installing typescipt is well documented and easy, and typescript is very intuitive and similar to javascript, so using it was pretty easy.

c) It seemed slightly counter-productive to implement typescript at first. It was most difficult to configure the appropriate json files, so that typescript could properly compile files in my strange project structure. Also learning how I could improve my code with typescript was harder then the aspects in b), but still pretty easy.

d) I could see typescript greatly improving the maintainability of a large scale deployment, and ensuring as few problems are present at deployment. This is because typescript has many features to prevent errors at runtime, and to catch errors during development and flat out prevent them from happening in the first place. Typescript makes it easier to read code, and hence easier to debug, and easier to spot errors because of warning messages/error messages/compilation time error messages.