Here we will explore here several "types" of limits.

1. First, we want to compute the limit $\lim_{x\to 3} \dfrac{x-3}{x^2-9}$.
   (a) What happens when you try to plug in $x = 3$?

   (b) Then, what "algebraic manipulation" can we do to compute such a limit ? What answer do we get? (check back section 2.2 of the textbook if you are not sure anymore.

2. Let us now try to compute the following limits:
   (a) $\lim_{x\to 0} \dfrac{e^x - 1}{\sin x}$,
   (b) $\lim_{x\to \infty} \dfrac{x}{e^x}$,
   (c) $\lim_{x\to 0^+} x \ln x$,
   (d) $\lim_{x\to \infty} x^{1/x}$

For each of them, what do you get if you try to directly plug in the values? What kind of expression do you get in each case?
Can you use a similar technique to the one used in i) to compute these limits?

In class we will see a technique to "easily" compute such limits.