$f(x) = \frac{e^x}{1+e^x}$

1. $\lim_{x\to\infty} f(x) = \lim_{x\to\infty} \frac{e^x}{1+e^x}$ By L'opital's rule: $\lim_{x\to\infty} \frac{e^x}{1+e^x} = \lim_{x\to\infty} \frac{e^x}{e^x} = 1$ Thus, the limit is 1.

2. $\lim_{x\to-\infty} \frac{e^x}{1+e^x}$ If we plug in negative, we find that the equation looks like: $\lim_{x\to\infty} \frac{\frac{1}{e^x}}{1+\frac{1}{e^x}}$ and as this equation goes to infinity, $\frac{1}{e^x}$ is going to go to zero. Thus, $\lim_{x\to-\infty} \frac{e^x}{1+e^x} = \frac{0}{1+0} = 0$

3. The derivative of f is $\frac{e^x}{e^{2x}+2e^x+1}$ Since e^x is never negative, we can conclude that the numerator is never negative, and for the same reason, the denominator is not negative, as we are adding only positive numbers.