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1. The `TableForm[]` below reveals some details about the `ourFib[]` and `fastFib[]` function we wrote in class, along with the built-in `Fibonacci[]` function.

n	ourFib[n]	ourFib[] timing	fastFib[n]	fastFib[] timing	Fibonacci[n]	Fibonacci[] timing
1	1	0.	1	0.	1	0.
2	1	0.	1	0.	1	0.
3	2	0.	2	0.	2	0.
4	3	0.	3	0.	3	0.
5	5	0.	5	0.	5	0.
6	8	0.	8	0.	8	0.
7	13	0.	13	0.	13	0.
8	21	0.	21	0.	21	0.
9	34	0.	34	0.	34	0.
10	55	0.	55	0.	55	0.
11	89	0.	89	0.	89	0.
12	144	0.	144	0.	144	0.
13	233	0.	233	0.	233	0.
14	377	0.	377	0.	377	0.
15	610	0.	610	0.	610	0.
16	987	0.	987	0.	987	0.
17	1597	0.	1597	0.	1597	0.
18	2584	0.	2584	0.	2584	0.
19	4181	0.015625	4181	0.	4181	0.
20	6765	0.015625	6765	0.	6765	0.
21	10946	0.015625	10946	0.	10946	0.
22	17711	0.015625	17711	0.	17711	0.
23	28657	0.015625	28657	0.	28657	0.
24	46368	0.03125	46368	0.	46368	0.
25	75025	0.0625	75025	0.	75025	0.
26	121393	0.078125	121393	0.	121393	0.
27	196418	0.0625	196418	0.	196418	0.
28	317811	0.21875	317811	0.	317811	0.
29	514229	0.265625	514229	0.	514229	0.
30	832040	0.453125	832040	0.	832040	0.
31	1346269	0.859375	1346269	0.	1346269	0.
32	2178309	1.48438	2178309	0.	2178309	0.
33	3524578	2.32813	3524578	0.	3524578	0.
34	5702887	3.5625	5702887	0.	5702887	0.

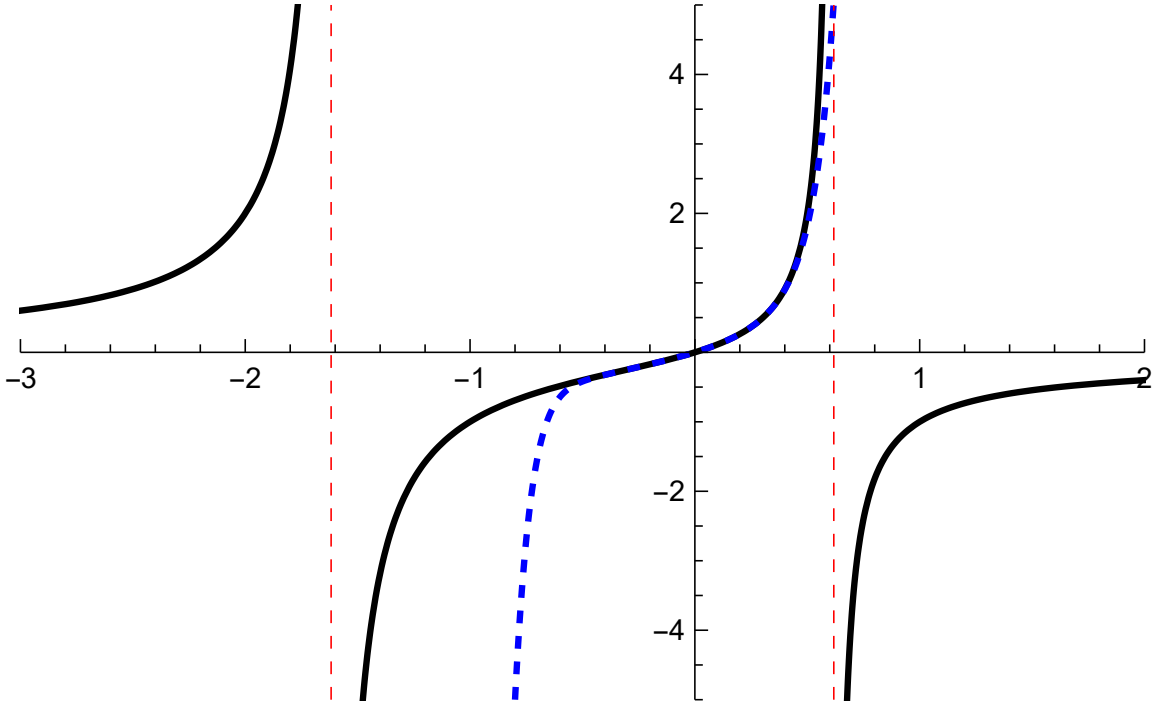
Generate this `TableForm[]`, formatted exactly as shown.

2. the `array` below shows the function $f(x) = \dfrac{x}{1-x-x^2}$; hardly any of these values were actually typed in this LaTeX document.

n	$f^{(n)}(x)$	$f^{(n)}(x)/n!$
0	$-\frac{x}{x^2+x-1}$	0
1	$\frac{x^2+1}{(x^2+x-1)^2}$	1
2	$-\frac{2\left(x^3+3x+1\right)}{(x^2+x-1)^3}$	1
3	$\frac{6\left(x^4+6x^2+4x+2\right)}{(x^2+x-1)^4}$	2
4	$-\frac{24\left(x^5+10x^3+10x^2+10x+3\right)}{(x^2+x-1)^5}$	3
5	$\frac{120\left(x^6+15x^4+20x^3+30x^2+18x+5\right)}{(x^2+x-1)^6}$	5
6	$-\frac{720\left(x^7+21x^5+35x^4+70x^3+63x^2+35x+8\right)}{(x^2+x-1)^7}$	8
7	$\frac{5040\left(x^8+28x^6+56x^5+140x^4+168x^3+140x^2+64x+13\right)}{(x^2+x-1)^8}$	13
8	$-\frac{40320\left(x^9+36x^7+84x^6+252x^5+378x^4+420x^3+288x^2+117x+21\right)}{(x^2+x-1)^9}$	21
9	$\frac{362880\left(x^{10}+45x^8+120x^7+420x^6+756x^5+1050x^4+960x^3+585x^2+210x+34\right)}{(x^2+x-1)^{10}}$	34
10	$-\frac{3628800\left(x^{11}+55x^9+165x^8+660x^7+1386x^6+2310x^5+2640x^4+2145x^3+1155x^2+374x+55\right)}{(x^2+x-1)^{11}}$	55
11	$\frac{39916800\left(x^{12}+66x^{10}+220x^9+990x^8+2376x^7+4620x^6+6336x^5+6435x^4+4620x^3+2244x^2+660x+89\right)}{(x^2+x-1)^{12}}$	89

Generate this `array` environment, formatted exactly as shown.

3. The figure below shows the graph of the function $f(x) = \dfrac{x}{1 - x - x^2}$, along with its 11^{th} degree polynomial approximation.



Create the figure, formatted exactly as shown. Be efficient when you type the 11^{th} degree polynomial within a `Plot[]` environment.

4. With a partner, typeset an exact replica of this document. Your final homework submission must include—all in one file!—the following:

   (a) your replica PDF file, generated with LaTeX

   (b) the *Mathematica* file you created

   (c) the LaTeX source code you created.