Guideline

Due Date: Thursday, 2023-10-26, by 23:59.

Upload your answers as a singular PDF to Brightspace.

If you're writing by hand, please ensure your handwriting is legible. Typewriting is preferred for coding exercises.

Multiple submissions are possible before the due time; the last submission will be graded.

1. (Points = 60) Define the function `power` of type `float->int->float`. The function takes a float `x` and an integer `y` as inputs, and return x to the power of y. You can use `failwith` to raise exceptions if needed.

   ```
   Test cases:
   - `power 3. 5` should equal to 243.
   - `power 0. 0` should raise an exception
   - `power 0. (-2)` should also raise an exception
   - `power 2. (-5)` should equal 0.03125
   - `power (-8.9) 0`  should equal to 1.
   ```

2. (Points = 20) What is your result of `print_float (power (-27.6) (-3))`?

3. (Points = 20) Is the result above exactly the same as `(-27.6)**(-3.)` in Ocaml?