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1  # CS241 Checkpoint 9B
2  # Written by Chad Macbeth
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4  # We can create our own Exception by creating a class and
5  # inheriting the Exception class. Creating your own exceptions
6  # is useful if you want unique exceptions (helps with readability of
7  # code sometimes) or if you want to store more data in the exception.
8  #
9  # You will notice in this case, that no additional data is stored in the
10 # new exception. One could conclude that this is waste of a class.
11
12 class NegativeNumberError(Exception):
13
14     def __init__(self, message):
15         super().__init__(message) # The constructor in Exception class
16                                     # takes a string message
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20 def get_inverse(n):
21     n_float = float(n) # If this fails, it will raise ValueError
22                         # exception for the main to catch
23
24     if n_float < 0:
25         raise NegativeNumberError("Error: The value cannot be negative") # Raise
26                                     # of
27                                     # returning an
28                                     # invalid value
29                                     # Function
30                                     # will exit here
31
32     return 1 / n_float # If this fails, it will raise ZeroDivisionError
33                         # exception for the main to catch
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36 def main():
37     n = input("Enter a number: ")
38     try:
39         result = get_inverse(n)
40         print("The result is: {}".format(result))
41     except ValueError: # Multiple exceptions can be handled after a try block
42         print("Error: The value must be a number")
43     except NegativeNumberError as e:
44         print(e)
45     except ZeroDivisionError:
46         print("Error: Cannot divide by zero")
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48 if __name__ == "__main__":
49     main()
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