Python as a Calculator

Blank notebook to be used for class exercises.

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Exercise 1

Change Hello to Goodbye, then run the cell.

```
print("Goodbye!")
```

```
Goodbye!
```

Exercise 2

In the cell below, calculate the following expressions (cast to integers using int()):

a	b
12 + 4	12 + 5
12 -4	12 - 5
12×4	12×5
$12 \div 4$	$12 \div 5$
12^4	12^5

Which is wrong?

```
# This is  a comment. Make sure you wrap all the expressions like the example below.
# Also, create a new cell for each expression (i.e., press the + button in Jupyter Lab)
int(12 + 4) # I have done the first one for you. You can create new cells for the others.
```

```
16
```

```
int(12-4)
```

```
8
```

```
int(12*4)
```

```
48
```

```
int(12/4)
```

```
3
```

```
int(pow(12,4))
```

```
20736
```

```
int(12-5)
```

```
7
```

```
int(12+5)
```

```
17
```

```
int(12*5)
```

```
60
```

```
int(12/5)
```

```
2
```

```
int(pow(12,5))
```

```
248832
```

Exercise 3

In a cell for each item, alculate the following expressions one at a time:

1. 12.0 + 4.0
2. 12.0 ÷ 4.0
3. $25.0^{0.5}$
4. $5.0^{-1.0}$
5. 5.0 ÷ 2

12.0 + 4.0

```
12.0/4.0
```

```
3.0
```

```
pow(25.0,0.5)
```

```
5.0
```

```
pow(5.0,-1.0)
```

```
0.2
```

```
5.0/2
```

```
2.5
```

Double-click (or enter) to edit

Exercise 4

First, predict what the python result will be. Next, in the cell below, calculate the following expressions one at a time:

1. 'Hello, ' + "world!"
2. 'Hello!' * 3
3. '' * 10000000000 # two adjacent single quotes
4. '4' + '2'

"Hello , world!"

```
print('Hello, ' + "world!")
```

```
Hello, world!
```

Hello!Hello!Hello!

```
print('Hello!' * 3)
```

```
Hello!Hello!Hello!
```

Double-click (or enter) to edit

```
"" * 10000000000
```

```
''
```

"42" because we are appending two characters

```
'4' + '2'
```

```
'42'
```

Double-click (or enter) to edit

Double-click (or enter) to edit

Exercise 5

Predict whether Python will print True or False before you type the following expressions.

1. 1 > 2 or 2 > 1
2. 1 > 2 or not 2 > 1
3. not True
4. 1 > 2 or True

All these are boolean expressions

1 > 2 or 2 > 1 false or true True 1 > 2 or not 2 > 1 false or not true False not True False 1 > 2 or True false or true True

```
1 > 2 or 2 > 1
```

```
True
```

```
1 > 2 or not 2 > 1
```

```
False
```

```
not True
```

```
False
```

```
1 > 2 or True
```

```
True
```

Exercise 6

Write the if, elif, else statements to process a score between 0.0 and 1.0. If the score is out of range, print an error message. If the score is between 0.0 and 1.0, print the grade using the following table:

Score	Grade
≥ 0.9	A
≥ 0.8	B
≥ 0.7	C
≥ 0.6	D
< 0.6	F

```
score = 0.72


# Delete the example if and else, then write code here

"""
In this program i m using functions , try except blocks. and also sys module just using my


"""
import sys
def grade(score):

  try:
    if score >= 0.0 and score <=1.0 :
      if score >= 0.9:
        return f"A"
      elif score >= 0.8:
        return f"B"
      elif score >= 0.7:
        return f"C"
      elif score >= 0.6:
        return f"D"
      elif score < 0.6:
        return f"F"
    else:
      return f"Invalid score"
  except:
    sys.exit("exiting")

if __name__ == "__main__":
 Grade = grade(score)
 print(f"Grade = {Grade}")
```

```
Grade = C
```