# ANSWER KEY

# PYTHON WORKBOOK – SECTION 7

## *Error & Exception Handling*

Programmer's Hub – by CodeWithVivek
https://www.youtube.com/@code-with-vivek

### 7.1 — Introduction

Error: ZeroDivisionError

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### 7.2 — The try…except block

**Try This –Solution**

When user enters 0:
Program prints *Something went wrong!*

**Debug This – Answer**

```
try:
    num = int(input("Enter a number: "))
    print(10 / num)
except:
    print("Error!")
```



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**Try This –Solution**

```
try:
    num = int(input("Enter a number: "))
    print(10 / num)
except ZeroDivisionError:
    print("Cannot divide by zero")
except ValueError:
    print("Invalid input")
```

**Try This –Solution**

Else executes when:
No exception occurs in try block

**Debug This - Answer**

Why code fails:
ZeroDivisionError is not handled.

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**7.3 — Raising Exceptions**

**Try This –Solution**

```
age = int(input("Enter age: "))
  if age < 18:
     raise ValueError("Age must be 18 or above")
except ValueError as e:
  print(e)
```



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**7.4 — Custom Exceptions**

**Your Turn - Solution**

```
class NegativeBalanceError(Exception):
  pass
```

**Practice Problems – Instructor Solutions**

**Problem 1 - Division Program**

```
try:
    a = int(input("Enter a: "))
    b = int(input("Enter b: "))
    print(a / b)
except Exception as e:
    print("Error:", e)
```

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**Problem 2 - List Index Program**

```
data = [10, 20, 30]
try:
    index = int(input("Enter index: "))
    print(data[index])
except IndexError:
    print("Invalid index")
```

**Mini Assignment – Full Instructor Solution**

**# Safe Calculator – Exception free**

```
def add(a, b):
    return a + b
def subtract(a, b):
    return a - b
def multiply(a, b):
    return a * b
def divide(a, b):
    if b == 0:
        raise ZeroDivisionError("Division by zero is not allowed")
    return a / b

while True:
    print("\n--- SAFE CALCULATOR ---")

    try:
        print("1. Addition")
        print("2. Subtraction")
        print("3. Multiplication")
        print("4. Division")
        print("5. Exit")
        choice = int(input("Enter your choice (1-5): "))

        if choice == 5:
            print("Thank you for using the calculator.")
            break
```

```
    num1 = float(input("Enter first number: "))
    num2 = float(input("Enter second number: "))

    if choice == 1:
        print("Result:", add(num1, num2))
    elif choice == 2:
        print("Result:", subtract(num1, num2))
    elif choice == 3:
        print("Result:", multiply(num1, num2))
    elif choice == 4:
        print("Result:", divide(num1, num2))
    else:
        print("Invalid choice. Please select 1 to 5.")
except ValueError:
    print("Invalid input! Please enter numeric values only.")
except ZeroDivisionError as e:
    print("Error:", e)
except Exception as e:
    print("Unexpected error:", e)
finally:
    print("Operation completed.")
```