COMPSCI 130 - Introduction to Software Fundamentals
Lab Activity Worksheet:
Lab04: Exception handling: What Can Go Wrong Will Go Wrong

Family Name:_____First Name: _____UPI:_____ Lab Time: _____

1. discuss the group work questions with your group members
2. complete the activity worksheet

Form groups of size 3 or 4. Introduce yourself to the other members of your group, and record the group members below:

During the execution of a program, things can, and do go wrong. The user may enter inappropriate data, a device may go offline, necessary disk space for output may not be available, etc. Errors occurring at runtime are known as exceptions and exception handling is the process designed to handle exceptions. Failure to properly handle an exception can cause a program to abort.

Task One: Consider the `is_old_enough(age)` function. The function returns True if the given age value is 18 or more. Otherwise the function should return False.

How would you test the code that the student submits? We will now look at INVALID values and examine the error message

Complete the following table:

age	Output/Error message
18	
15.5	
'15'	
[17]	

What should you use to handle the problem if the age value is a String?

Task Two: Again, consider the ***get_largest(filename)*** function that we used in the previous lab:

```
def get_largest(filename):
    input_file = open(filename, 'r')
    lines = input_file.readlines()
    input_file.close()
    largest = 0
    for line in lines:
        items_list = line.split()
        for element in items_list:
            value = float(element)
            if value > largest:
                largest = value
    return largest
```

We will now look at INVALID values and examine the error message.

Complete the following table:

filename	Output/Error message
error.txt (i.e. file doesn't exist)	
numbers_with_letters.txt 4 7 a 45 7 -6 123	
numbers.txt -2 -9 -1 -78.5 6.5 2 90	

Task three: Tracing Code - Exceptions

```
input_value = '3'
result = ''
try:
	num = int(input_value)
	result += 'a'
	try:
		num = 200 / 0
		result += 'b'
	except ValueError:
		result += 'c'
	except:
		result += 'd'
	finally:
		result += 'e'
except ZeroDivisionError:
	result += 'f'
except ValueError:
	result += 'g'
else:
	result += 'h'
finally:
	result += 'i'
print(result)
```

Complete the following table:

input_value	Output/Error message
`input_value = '3'`	
`input_value = 'a'`	

Task Four:

What's the difference between a `TypeError` and a `ValueError`? Give an example on each one.