

Tuesday Oct 8, 2024

In-class Handout

COSC 101C Intro to Computing I

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Name:

Discuss and complete the following questions with the person nearest you. You **may** be asked to share your thoughts with the class.

1. What is the output of each of the following code chunks?

```
def funcA() -> None:
    total = 1
    while total < 16:
        total = total * 2
        print(total)
```

funcA()

2
4
8
16

```
def funcB() -> None:
    a = 6
    b = 5
    while a >= 0 and b > 0:
        print(a, b)
        a = a-2
        b = b-1
```

funcB()

6 5
4 4
2 3
0 2

2. Write a function called `get_donations` that takes a fundraising goal (in dollars) and repeatedly asks the user for donation amounts until the fundraising goal has been met. The function should return the total number of donations entered.

```
def get_donations(goal: float) -> int:
    """ Ask for donations until goal is reached returning number of donations
    Parameters:
        goal (float): Amount of money you want to raise
    Returns:
        count (int): Total number of donations recieved.
    """
    count = 0
    raised = 0
    while raised < goal:
        contribution = float(input("Donation amount: $"))
        raised += contribution
        count += 1
    return count
```

get_donations(100)

3. Make versions of these functions which utilize while loops instead of for loops.

```

def odd(alist: list) -> list:
    odds = []
    for num in alist:
        if num%2 == 1:
            odds.append(num)
    return odds
odd([1, 2])

def oddWhile(alist: list) -> list:
    odds = []
    while len(alist)!=0:
        num = alist.pop(0)
        if num%2 == 1:
            odds.append(num)
    return odds
oddWhile([1, 2, 3])

def vowels(phrase: str) -> int:
    count = 0
    for char in phrase:
        if char in 'aeiou':
            count += 1
        if char == 'x':
            break
    return count
vowels('aexo')

def vowelsWhile(phrase: str) -> int:
    count = 0
    while len(phrase) != 0:
        char = phrase[0]
        phrase = phrase[1:]
        if char in 'aeiou':
            count += 1
        if char == 'x':
            break
    return count
vowelsWhile('aео')

```