Lösung zu Aufgabe 1

```
day = 0
incidence = 219

above_300 = False
above_500 = False
above_1000 = False
above_10000 = False

# The loop simulates the incidence for every day
# Once it hits one of the given thresholds a message is printed
# To stop printing after the threshold is reached the flags above_xxx are used

while incidence <= 100000:
    day += 1
    incidence = int(incidence*1.0458)
    if incidence > 300 and not above_300:
        print(f"Über 300 an Tag {day}")
        above_300 = True
    if incidence > 500 and not above_500:
        print(f"Über 500 an Tag {day}")
        above_500 = True
    if incidence > 1000 and not above_1000:
        print(f"Über 1000 an Tag {day}")
        above_1000 = True
    if incidence > 10000 and not above_10000:
        print(f"Über 10000 an Tag {day}")
        above_10000 = True
    if incidence > 100000:
        print(f"Über 100000 an Tag {day}")
```

Lösung zu Aufgabe 2

```
example_list = [2, 7, 5, -1, 4, 12, 3, -19, 16]

# We add all items up, every second item is multiplied by 2 (i.e. weighting)
weighted_sum = 0
length = 0

for (index, number) in enumerate(example_list):
    if index % 2 == 0:
        # Remember: The first item in the list has index 0
        weighted_sum += number
        length += 1
    else:
        weighted_sum += 2*number
        length += 2

result = weighted_sum / length
print(f"Der gewichtete Durchschnitt ist {result}")
```

Lösung zu Aufgabe 3

```
my_name = "Aaron"
friends_name = "Tom"

example = ["Max", "Lara", "Kathrin", "Aaron", "Tom", "Sebastian"]      # should return True
example_2 = ["Max", "Lara", "Kathrin", "Tom", "Aaron", "Sebastian"]    # should return True
example_3 = ["Max", "Lara", "Kathrin", "Tom", "Sebastian", "Aaron"]    # should return False

my_list = example

length = len(my_list)

for (index, name) in enumerate(my_list):
    # if we are at the beginning of the list, there is nothing to check
    if index == 0:
        continue
    # Check if you are at the current position and your friend at the previous position
    if name == my_name and my_list[index - 1] == friends_name:
        print("Ja, die beiden Namen kommen hintereinander")
        break
    # Check if your friend is at the current position and you are at the previous position
    if name == friends_name and my_list[index - 1] == my_name:
        print("Ja, die beiden Namen kommen hintereinander")
        break
else:
    print("Nein, die beiden Namen kommen nicht hintereinander")
```

Lösung zu Aufgabe 4

```
counter = 1
n = 1000000000

while n != 1:
    counter += 1
    if n % 2 == 0:
        n = n//2
    else:
        n = 3*n + 1

print(f"Die Folge ist nach {counter} Folgengliedern zu Ende")
```