

Python Practice Questions - MAD 102 Notes

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1. Longest Country Name

```
countries = ["Australia", "Germany", "United States of  
America"]  
longest_country = ""  
for country in countries:  
    if len(country) > len(longest_country):  
        longest_country = country  
print("The longest country name is:", longest_country)
```

2. FizzBuzz from 1 to 15

```
for i in range(1, 16):  
    if i % 3 == 0 and i % 5 == 0:  
        print("FizzBuzz")  
    elif i % 3 == 0:  
        print("Fizz")  
    elif i % 5 == 0:  
        print("Buzz")  
    else:  
        print(i)
```

3. Reverse List with Index

```
n = int(input("Enter the number of elements: "))  
numbers = []  
for i in range(n):  
    numbers.append(int(input("Enter number: ")))  
  
for i in range(n-1, -1, -1):  
    print(f"Index: {i}, Number: {numbers[i]}")
```

5. Count Vowels in String

```
vowels = "aeiouAEIOU"
s = input("Enter a string: ")
count = 0
for char in s:
    if char in vowels:
        count += 1
print("Number of vowels:", count)
```

6. Display Each Character with Position

```
s = input("Enter a string: ")
for index in range(len(s)):
    print(f"Position {index}: {s[index]}")
```

7. Right-Angle Triangle with Asterisks

```
n = int(input("Enter number of rows: "))
for i in range(1, n+1):
    print("*" * i)
```

8. Pyramid Pattern with Incremental Numbers

```
n = int(input("Enter the number of rows: "))
num = 1
for i in range(1, n+1):
    for j in range(1, i+1):
        print(num, end=" ")
        num += 1
    print()
```

9. Harmonic Series and Sum

```
n = int(input("Enter the number of terms: "))
harmonic_sum = 0
for i in range(1, n+1):
    harmonic_sum += 1/i
    print(f"1/{i}", end=" ")
    if i != n:
```

```
        print(" + ", end="")
    print(f" = {harmonic_sum}")
```

10. Armstrong Number

```
num = int(input("Enter a number: "))
digits = [int(d) for d in str(num)]
power = len(digits)
armstrong_sum = sum(d**power for d in digits)

if num == armstrong_sum:
    print(f"{num} is an Armstrong number")
else:
    print(f"{num} is not an Armstrong number")
```

11. DeLorean Test Drive Game

```
speed = 0
while True:
    print(f"Current speed: {speed} mph")
    action = input("Do you want to 'accelerate' or 'brake'
        '? ").lower()
    if action == 'accelerate':
        speed += 10
        if speed > 88:
            print("You have traveled in time!")
            break
    elif action == 'brake':
        print(f"You have stopped. Your top speed was {
            speed} mph.")
        break
```

12. Generate User ID and Random Pin

```
import random

first_name = input("First Name: ").lower()
last_name = input("Last Name: ").lower()
dob = input("Year of Birth (dd-mm-yyyy): ")

username = first_name[:3] + last_name[:3] + dob[:2]
password = random.randint(1000, 9999)
```

```
print("Username:", username)
print("Password:", password)
```