Intro to 'Strings'

```
# Quiz

# print("Rahul has " + 10 + "rupees")

# We can't add string with an integer


# ord funtion

ord('a')

97

ord('z')

122

ord('y')

121

ord('A')

65

ord('Z')

90
```

Challenge 1:

- Take a string as input and print all the characters in a newline.
- Input: "India"
- Output:
- I
- n
- d
- i
- a

```
# Quizzes
```

```
country = input()
for i in country:
    print(i)
```

 India

```
I
n
d
i
a
```

Challenge 2:
- Given a string as input, print the first and the last character of the string.
- Input: "India"
- Output:
- I
- a

```
# Indexing
```

```
country = input()
```

 India

```
print(country[0])
print(country[-1])
```

```
I
a
```

```
print(country[0])
print(country[4])
```

```
I
a
```

```
len(country)
```

5

```
name = "Rahul"
```

```
name[::-1]
```

'luhaR'

```
name[::]
```

'Rahul'

Challenge 3:

 • Take a string as input and print the ASCII value of the characters in it.

```
# ord
```

```
# chr
```

```
name = input()
```

 Aditya

```
for i in name:
    print(i)
```

```
A
d
i
t
y
a
```

```
for i in name:
    print(ord(i))
```

```
65
100
105
116
121
97
```

```
ord("A")
```

65

```
ord('d')
```

100

```
ord("i")
```

105

```
## Capital letters are smaller in ASCII values... hahaha irony

# HW: Get the sum of your name's ASCII value and post in the group
along
# with the name
```

Challenge 4

- Given a string as input, print it 3 times without any space. (can't use a loop)
- Input: "India"
- Ouput: "IndiaIndiaIndia"

```
# Quiz

# + and *

name = "Rahul"

# Concatenation

name + name

'RahulRahul'

name + name + name
```

```
'RahulRahulRahul'

name*3

'RahulRahulRahul'

# Can't multiply string with a string

"Rahul" * "Rahul"

---------------------------------------------------------------------
-----
TypeError                                 Traceback (most recent call
last)
/var/folders/zn/hkv6562d6_d30glfs8yc76900000gn/T/ipykernel_1074/388500
5004.py in <module>
----> 1 "Rahul" * "Rahul"

TypeError: can't multiply sequence by non-int of type 'str'


country = input()

 India

print(country*3)

IndiaIndiaIndia

city = "Phoenix"
print(len(city*3))

21

city*3

'PhoenixPhoenixPhoenix'

len('PhoenixPhoenixPhoenix')

21

len("Phoenix")

7
```

Challenge 5:

- Given a string as input, count the no of upper case characters

```
# isupper

name = "RaHUl"
```

```python
for i in name:
    print(i)
```

```
R
a
H
U
l
```

```python
# ASCII range for upper case 65 - 90

count = 0
for i in name:
    if ord(i) >= 65 and ord(i) <= 90:
        count += 1
print(count)
```

```
3
```

```python
ord("l")
```

```
108
```

```python
# Find number of small and upper case letters in "RaHUl"

"i".isupper()
```

```
False
```

```python
"A".isupper()
```

```
True
```

```python
count = 0
for i in name:
    if i.isupper():
        count += 1

print(count)
```

```
3
```

Challenge 6:
- Convert the string to lower case.
- Input: "INdiA" Output: "india"

```python
# Quiz

# islower
```

```python
# string concatenation
## Lists are mutable
l = [2, 4, 5]
l[0] = 6
l
```
```
[6, 4, 5]
```
```python
# Strings are immutable
name = "Rahul"
# name[0] = "B"
s = ''
s += "R"
s += "a"
s += 'h'
s += 'u'
s+= 'l'
s
```
```
'Rahul'
```
```python
country = "INdiA"
for i in country:
    if i.isupper():
        print(i)
        print(ord(i))
        print("------")
```
```
I
73
------
N
78
------
A
65
------
```
```python
for i in country:
    if i.isupper():
```

```
        new = ord(i) + 32
        print(new)
```

105
110
97

```
chr(105)
```

'i'

```
for i in country:
    if i.isupper():
        new = ord(i) + 32
        print(chr(new))
```

i
n
a

country

'INdiA'

```
result = ''
for i in country:
    if i.isupper():
        new = ord(i) + 32
        result += chr(new)
    else:
        result += i
print(result)
```

india

```
"I".islower()
```

False

```
# lower will convert your string into lower case
```

```
"I".lower()
```

'i'

```
# # upper will convert your string into upper case
```

```
"i".upper()
```

'I'

```
country
```

'INdiA'

```python
res = ''

for i in country:
    if i.isupper():
        res += i.lower()
    else:
        res += i
print(res)

india
```

```python
# islower and isupper will give you boolean value

# lower and upper will give you value by converting them

res = country.lower()

res

'india'

res.upper()

'INDIA'
```

In operator in Strings

```python
# Quiz

l

[2, 3, 4]

2 in l

True

name

'Rahul'

'r' in name

False

"R" in name

True

"Ra" in name
```

```
True

"Rh" in name

False

def unique(str):
  letters = []

  for char in str:
    if char not in letters:
      letters.append(char)

  return letters

unique("apple")

['a', 'p', 'l', 'e']
```

Enumerate function

```
l = [2, 3, 4]

for index, value in enumerate(l):
    print(index, value)

0 2
1 3
2 4

name = "Rahul"

for index, value in enumerate(name):
    print(index, value)

0 R
1 a
2 h
3 u
4 l

for index, value in enumerate(name):
    print(value, index)

R 0
a 1
h 2
```

```
u 3
l 4

for index, value in enumerate(name):
    print(index, value * 2)

0 RR
1 aa
2 hh
3 uu
4 ll

for uncle, aunty in enumerate(name):
    print(uncle, aunty)

0 R
1 a
2 h
3 u
4 l
```

Doubts

```
a = 'a'

b = 97

int(a)

---------------------------------------------------------------------
-----
ValueError                                Traceback (most recent call
last)
/var/folders/zn/hkv6562d6_d30glfs8yc76900000gn/T/ipykernel_1074/766485
689.py in <module>
----> 1 int(a)

ValueError: invalid literal for int() with base 10: 'a'

ord(a)

97

ord('a') == 97
```

True