While loop

- With the while loop we can execute a set of statements as long as a condition is true.

In [1]:

```
n = 10
while(n<=20):
    print(n,end=" ")
    n += 1
```

```
10 11 12 13 14 15 16 17 18 19 20
```

In [2]:

```
# 20 19 18 17 16 15 14 13 12 11 10
n = 20
while(n>=10):
    print(n, end=" ")
    n -= 1
```

```
20 19 18 17 16 15 14 13 12 11 10
```

In [3]:

```
# Write a python program to print even numbers in between range of 1 to 10.
n = 2
while(n <= 10):
    print(n)
    n += 2
```

```
2
4
6
8
10
```

In [4]:

```
n = 1
while(n <= 10):
    print(n)
    n += 2
```

```
1
3
5
7
9
```

Strings

- A string is a collection of characters, special characters, numbers, and float values.
- An empty string is a string that has 0 characters.

- String is immutable(not changable).

string slicing

In [5]:

```
s = 'python programming'
len(s)
```

Out[5]:

```
18
```

In [6]:

```
print(s[0])
```

```
p
```

In [8]:

```
print(s[0:6])
```

```
python
```

In [9]:

```
print(s[0:])
```

```
python programming
```

In [10]:

```
print(s[7:])
```

```
programming
```

In [11]:

```
# python programming
print(s[0::2])
```

```
pto rgamn
```

In [13]:

```
print(s[len(s)//2])
```

```
o
```

In [14]:

```
print(s[-1])
```

```
g
```

In [15]:

```
print(s[-1::-1])
```

```
gnimmargorp nohtyp
```

In [16]:

```
s['python'] = 'c'
print(s)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-16-7f1130991168> in <module>
----> 1 s['python'] = 'c'
      2 print(s)

TypeError: 'str' object does not support item assignment
```

In [17]:

```
print(dir(str))
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc_
_', '__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__
getnewargs__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__ite
r__', '__le__', '__len__', '__lt__', '__mod__', '__mul__', '__ne__', '__new_
_', '__reduce__', '__reduce_ex__', '__repr__', '__rmod__', '__rmul__', '__se
tattr__', '__sizeof__', '__str__', '__subclasshook__', 'capitalize', 'casefo
ld', 'center', 'count', 'encode', 'endswith', 'expandtabs', 'find', 'forma
t', 'format_map', 'index', 'isalnum', 'isalpha', 'isascii', 'isdecimal', 'is
digit', 'isidentifier', 'islower', 'isnumeric', 'isprintable', 'isspace', 'i
stitle', 'isupper', 'join', 'ljust', 'lower', 'lstrip', 'maketrans', 'partit
ion', 'replace', 'rfind', 'rindex', 'rjust', 'rpartition', 'rsplit', 'rstri
p', 'split', 'splitlines', 'startswith', 'strip', 'swapcase', 'title', 'tran
slate', 'upper', 'zfill']
```

capitalize

- It converts the first character to upper case

In [18]:

```
s = 'apssdc'
s.capitalize()
```

Out[18]:

```
'Apssdc'
```

In [19]:

```
s = 'APSSDC'
s.capitalize()
```

Out[19]:

```
'Apssdc'
```

casefold()

- Converts string into lower case

In [20]:

```
s = 'Hello World'
s.casefold()
```

Out[20]:

```
'hello world'
```

In [21]:

```
s = 'HELLO WORLD'
s.casefold()
```

Out[21]:

```
'hello world'
```

center()

In [22]:

```
s = 'python'
s.center(10)
```

Out[22]:

```
'  python  '
```

In [23]:

```
s.center(10,'@')
```

Out[23]:

```
'@@python@@'
```

In [24]:

```
s.center(11,'#')
```

Out[24]:

```
'###python##'
```

count()

In [26]:

```
s = "python is awesome, isn't it"
s.count("is")
```

Out[26]:

```
2
```

In [28]:

```
s1 = 'python programming'
s1.count('p')
```

Out[28]:

```
2
```

endswith()

In [1]:

```
s = 'online program on python'
print(s.endswith('python'))
```

```
True
```

In [2]:

```
print(s.endswith('on'))
```

```
True
```

In [3]:

```
print(s.endswith('online'))
```

```
False
```

In [4]:

```
print(s.endswith('program'))
```

```
False
```

In [5]:

```
print(s.endswith('on'))
```

```
True
```

expandtabs()

In [6]:

```
s = 'online program\ton python'
print(s)
```

```
online program  on python
```

In [7]:

```
s.expandtabs()
```

Out[7]:

```
'online program  on python'
```

In [8]:

```
s = 'onlineprogramonpython'
s.expandtabs()
```

Out[8]:

```
'onlineprogramonpython'
```

In [11]:

```
s = 'online\tprogram\ton python'
s.expandtabs(15)
```

Out[11]:

```
'online         program        on python'
```

find()

In [12]:

```
s = 'online program on python'
print(s.find('python'))
```

```
18
```

In [13]:

```
print(s.find('apssdc'))
```

```
-1
```

lower()

In [14]:

```
s = 'Hello world'
```

In [16]:

```
print(s.lower())
```

```
hello world
```

In [19]:

```
s1 = 'HELLO WORLD'
s1.lower()
```

Out[19]:

```
'hello world'
```

format()

In [20]:

```
txt1 = "My name is {fname}, I am {age}".format(fname='John', age= 23)
print(txt1)
```

```
My name is John, I am 23
```

In [21]:

```
txt2 = "My name is {0}, I'am {1}".format('John',36)
print(txt2)
```

```
My name is John, I'am 36
```

In [22]:

```
txt3 = "My name is {}, I'am {}".format('John',36)
txt3
```

Out[22]:

```
"My name is John, I'am 36"
```

In [23]:

```
# format_map()

x = {'a':'Rama','b':'Krishna'}
print("{a}'s last name is {b}".format_map(x))
```

```
Rama's last name is Krishna
```

In [24]:

```
# index()
s = 'apssdc'
print(s.index('c'))
```

```
5
```

In [25]:

```
# isalnum()
s = 'python123'
s.isalnum()
```

Out[25]:

```
True
```

In [26]:

```
s1 = 'python'
s1.isalnum()
```

Out[26]:

```
True
```

In [27]:

```
s = 'python 123'
s.isalnum()
```

Out[27]:

```
False
```

In [28]:

```
s = '1234'
s.isalnum()
```

Out[28]:

```
True
```

In [29]:

```
# isalpha()
s = 'python123'
s.isalpha()
```

Out[29]:

```
False
```

In [30]:

```
s = 'python'
s.isalpha()
```

Out[30]:

```
True
```

In [31]:

```
s = '123456'
s.isdigit()
```

Out[31]:

```
True
```

In [32]:

```
s = 'abc123456'
s.isdigit()
```

Out[32]:

```
False
```

In [34]:

```
# isdecimal
s = '1234567890'
s.isdecimal()
```

Out[34]:

```
True
```

In [35]:

```
a = '\u0030' # unicode for 0
print(a.isdecimal())
```

```
True
```

In [37]:

```
# join()
t = ('John','Peter','Vicky')
x = "#".join(t)
print(x)
```

```
John#Peter#Vicky
```

In [38]:

```
# split()
s = 'online programming on python'
s.split()
```

Out[38]:

```
['online', 'programming', 'on', 'python']
```

In [39]:

```
s = 'online@programming@on@python'
s.split()
```

Out[39]:

```
['online@programming@on@python']
```

In [40]:

```
s.split('@')
```

Out[40]:

```
['online', 'programming', 'on', 'python']
```

In [41]:

```
# replace()

s = 'python world'
s.replace('world','program')
```

Out[41]:

```
'python program'
```

In [42]:

```
# title()
s = "python world"
s.title()
```

Out[42]:

```
'Python World'
```

In [ ]:

```
1
```