Python help sheet 1: Basics, strings, loops

1. Printing a string: `print('Hello, World!')`

2. Printing without the newline at the end: `print('Hello, World!', end='')`

3. Expression as an input argument for the print function (printing a string *s* five times):
```
s = 'Alfred University'
print(s*5)
```

4. Getting the user input (string, integer and float):
```
name = input('Your name: ')
age = int(input('Your age: '))
salary = float(input('Your salary: '))
```

5. IF … ELSE IF … ELSE statement:
```
if a > b:
  print('a is the max')
elif a < b:
  print('b is the max')
else:
  print('a and b are equal')
```

6. Create a fruitful function with the name *sum_of_three* that returns sum of three numbers:
```
def sum_of_three(a, b, c):
    return a + b + c
```

7. Create a void function with the name *sum_of_three* that prints sum of three numbers:
```
def sum_of_three(a, b, c):
    print(a + b + c)
```

8. Call the function *sum_of_three* for numbers 7, 8 and 11:
```
sum_of_three(7, 8, 11)
```

9. Getting the length of a string variable *s:* `len(s)`

10. Getting the first character of a string variable *s:* `s[0]`

11. Getting the last character of a string variable *s:* `s[-1]`

12. Slice the string from i-th character to j-th character*:* `s[i:j+1]`

13. Math operators:

Operator	Operation	Example
**	Exponent	`2 ** 3 => 8`
%	Modulus/Remainder	`22 % 8 => 6`
//	Integer division	`22 // 8 => 2`
/	Division	`22 / 8 => 2.75`

14. Python loops examples:

- For loop in a range for 10 to 20:

```
for i in range(10, 21):
    print(i)
```

- For loop in a range from 20 to 10:

```
for i in reversed(range(10, 21)):
    print(i)
```

- For loop for numbers 10, 15, 20, …, 100:

```
for i in range(10, 101, 5):
   print(i)
```

- For loop for every character in a string *s*:

```
for c in s:
   print(c)
```

- While loop until a variable *i* is less than length of a string *s*:

```
i = 0
while i < len(s):
   print(s[i])
   i += 1
```

15. Python loop keywords:

- **continue** - immediately proceed to the next iteration
- **break** - immediately exit the loop

```
s = 'Hello, World'
for c in s:
   if c == 'l':
       continue
   elif c == 'r':
        break
   else:
        print(c, end='')
```

Output: **`Heo, Wo`**