Assignment 23 Solutions

1.Create a function that takes a number as an argument and returns True or False depending on whether the number is symmetrical or not. A number is symmetrical when it is the same as its reverse. ¶

Examples:

```
is_symmetrical(7227) ➞ True

is_symmetrical(12567) ➞ False

is_symmetrical(44444444) ➞ True

is_symmetrical(9939) ➞ False

is_symmetrical(1112111) ➞ True
```

In [1]:
```python
def is_symmetrical(in_num):
    if str(in_num) == str(in_num)[::-1]:
        print(f'{in_num} ➞ {True}')
    else:
        print(f'{in_num} ➞ {False}')

is_symmetrical(7227)
is_symmetrical(12567)
is_symmetrical(44444444)
is_symmetrical(9939)
is_symmetrical(1112111)
```

```
7227 ➞ True
12567 ➞ False
44444444 ➞ True
9939 ➞ False
1112111 ➞ True
```

2.Given a string of numbers separated by a comma and space, return the product of the numbers.

Examples:

```
multiply_nums("2, 3") ➞ 6

multiply_nums("1, 2, 3, 4") ➞ 24

multiply_nums("54, 75, 453, 0") ➞ 0

multiply_nums("10, -2") ➞ -20
```

```python
In [2]: def multiply_nums(in_string):
            out_string = in_string.replace(' ','').split(',')
            out_num = 1
            for ele in out_string:
                out_num *= int(ele)
            print(f'{in_string} → {out_num}')

        multiply_nums("2, 3")
        multiply_nums("1, 2, 3, 4")
        multiply_nums("54, 75, 453, 0")
        multiply_nums("10, -2")
```

```
2, 3 → 6
1, 2, 3, 4 → 24
54, 75, 453, 0 → 0
10, -2 → -20
```

3.Create a function that squares every digit of a number.

Examples:
```
 square_digits(9119) → 811181
 square_digits(2483) → 416649
 square_digits(3212) → 9414
```

Notes:
The function receives an integer and must return an integer.

```python
In [3]: def square_digits(in_num):
            in_list = [str(int(ele)**2) for ele in str(in_num)]
            out_list = ''.join(in_list)
            print(f'{in_num} → {int(out_list)}')

        square_digits(9119)
        square_digits(2483)
        square_digits(3212)
```

```
9119 → 811181
2483 → 416649
3212 → 9414
```

4.Create a function that sorts a list and removes all duplicate items from it.

Examples:
```
 setify([1, 3, 3, 5, 5]) → [1, 3, 5]
 setify([4, 4, 4, 4]) → [4]
 setify([5, 7, 8, 9, 10, 15]) → [5, 7, 8, 9, 10, 15]
 setify([3, 3, 3, 2, 1]) → [1, 2, 3]
```

```
In [4]: def setify(in_list):
            out_list = sorted(set(in_list))
            print(f'{in_list} → {out_list}')

        setify([1, 3, 3, 5, 5])
        setify([4, 4, 4, 4])
        setify([5, 7, 8, 9, 10, 15])
        setify([3, 3, 3, 2, 1])
```

```
[1, 3, 3, 5, 5] → [1, 3, 5]
[4, 4, 4, 4] → [4]
[5, 7, 8, 9, 10, 15] → [5, 7, 8, 9, 10, 15]
[3, 3, 3, 2, 1] → [1, 2, 3]
```

5.Create a function that returns the mean of all digits.

Examples:
```
mean(42) → 3
mean(12345) → 3
mean(666) → 6
```

Notes:
1.The mean of all digits is the sum of digits / how many digits there are (e.g. mean of digits in 512 is (5+1+2)/3(number of digits) = 8/3=2).
2.The mean will always be an integer.

```
In [5]: def mean(in_num):
            in_list = [int(ele) for ele in str(in_num)]
            out_num = sum(in_list)/len(str(in_num))
            print(f'Mean of {in_num}  → {out_num:.0f}')

        mean(42)
        mean(12345)
        mean(666)
```

```
Mean of 42  → 3
Mean of 12345  → 3
Mean of 666  → 6
```