Assignment 1

1: c) 15

Question 1

```
In [8]: ##First we define fucntion naming it as remainder with 2 variables: a and b

        def remainder(a, b):
            if a == 0: ## If a == 0, then just return the value assigned to b
                return b

            else:
                return b%a ##If a is not equal to zero then divide b by a


        remainder(30,75) ##We recall the remainder function and and assign a as 30 and b as 75

Out[8]: 15
```

2: b) filter

Question 2

```
In [24]: #Create a tuple with random numbers and naming the tuple as numbers
         numbers = (4, 7, 19, 2, 89, 45, 72, 22)

         ##Sort the number by ascending order and storing it in the variable sorted_numbers
         sorted_numbers = sorted(numbers)

         ##Creating a function using lambda to filter even numbers
         even = lambda a: a % 2 == 0
         even_numbers = filter(even, sorted_numbers) ##Applying even fucntion to filter out other numbers

         ##Printing the type of filter
         print(type(even_numbers))

         <class 'filter'>
```

3: a) Tuple

Question 3

```
In [41]: def my_function(*args):
             return type(args)

         my_function(1,2,3,4,5)

Out[41]: tuple
```

4: d) Error

```
In [44]: set1 = {14, 3, 55}
         set2 = {82, 49, 62}
         set3={99,22,17}

         len(set1 + set2 + set3)

         ---------------------------------------------------------------------------
         TypeError                                 Traceback (most recent call last)
         Cell In[44], line 5
               2 set2 = {82, 49, 62}
               3 set3={99,22,17}
         ----> 5 len(set1 + set2 + set3)

         TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

5: a) Raise

6: c) datetime

7: c) 208

```
In [45]: print(4**3 + (7 + 5)**(1 + 1))
208
```

8: d) None

9: b) immutable

10: a) range

11: c) lambda function

12: c) Both A and B

13: d) None of the mentioned above

14: a) load()

15: d)All of the mentioned above

16: a) for ship, captain in captains.items():
print(ship, captain)

```
In [47]: for ship, captain in captains.items():
             print(ship, captain)

Enterprise Picard
Voyager Janeway
Defiant Sisko
```

17: d) captains = {}

18: c) captains = {
"Enterprise": "Picard",
"Voyager": "Janeway",
"Defiant": "Sisko",
}

```
In [46]: captains = {
"Enterprise": "Picard",
"Voyager": "Janeway",
"Defiant": "Sisko",
}
```

19: b) for ship, captain in captains.items():
print(f"The {ship} is captained by {captain}.")

```
In [49]: for ship, captain in captains.items():
             print(f"The {ship} is captained by {captain}.")

         The Enterprise is captained by Picard.
         The Voyager is captained by Janeway.
         The Defiant is captained by Sisko.
```

20: c)

```
9]: del captains["Discovery"]

    ---------------------------------------------------------------------------
    KeyError                                  Traceback (most recent call last)
    Cell In[59], line 1
    ----> 1 del captains["Discovery"]
          2 captains

    KeyError: 'Discovery'

0]: captains

0]: {'Enterprise': 'Picard', 'Voyager': 'Janeway', 'Defiant': 'Sisko'}
```