1) Create a function `filter_numbers` with one parameter: a list containg items of various types. The function returns a list that will contain only the items of type `int` or `float` (use function `type`). The numberes in the list will be sorted (function `sort`).
(1p)

Input:

```
filter_numbers([1.2, "sdas", 4, [12], 3.4, "12", -3, True, 5, 8.1])
```

Output:

```
[-3, 1.2, 3.4, 4, 5, 8.1]
```

****

2) Create a function `check_brackets` with a string parameter. The function returns `True` if the formula passed to the function is valid (if each opened bracket is closed), `False` otherwise.
(1p)

Input:

```
check_brackets("(a+b)/(b*(a+c))")
check_brackets("(a+b))/((b*(a+c))")
check_brackets("(a+b)/(b*(a+c)")
```

Output:

```
True
False
False
```

****

3) Create a function `fun_extrems` with three parameters: another function f that returns a number, and 2 integer values determining the interval (from - to). The function returns the minimum value of f in the defined interval (assume only integer values in the interval). You can use a function `min`.
(1.5p)

Input:

```
def f(x):
 return x*(x-2)
fun_extrems(f, -5, 5)
```

Output:

```
-1
```

****

4) Create a function `number_of_vowels` with a string parameter. The function returns a dictionary, in which the vowels occuring in the string will be keys, the number of occurencies will be values. Assume that the vowels are 'a', 'e', 'i', 'o', 'u'. Transform the string to the lower case (function `lower`).
(1.5p)

Input:

```
number_of_vowels('Technical University')
```

Output:

```
{'e': 2, 'i': 3, 'a': 1, 'u': 1}
```