



Object Meets Function

Assignment 1 – Winter Semester 22/23

Tübingen, 10. November 2022

Handin Please submit this homework until Wednesday, November 16, 2022, via email to Steven Lolong (steven.lolong@uni-tuebingen.de) before 24:00.

Email Format Use this format for email's subject: **OmF-W22/23-Assign**[no]-[YourName]

Task 1: Type and Value

1.1 What is the type and the value of the expressions below (7 Points)

```
1 1 + 2
2 "3".toInt
3 (3 + 3)
4 val a: Double = 3 + 3
5 67.toChar
6 "Foo Bar".take(2)
7 66.toChar.toString
8 ()
9 (3 == 4)
10 'a' + 'b'
11 "a" + "b"
12 'Bar'
13 if 2 < 1 then "Foo" else "Bar"
14 1 + 2 == 'c'
```

Listing 1: Value and Type

1.2 Are the expressions below the same? please explain (3 Point)

1. 'a' and "a"
2. '3'.toInt and "3".toInt
3. if(false) "Hallo" and if((3 + 2) < 5) "Hallo"

Task 2: Operator (2 Points)

Variables:

```
1 val valA = 1
2 val valB = 10
3 val valC = 100
4 val valX = true
5 val valY = false
```

Listing 2: Variables

What is the value of each expression in Listing 3 based on the variable declaration in Listing 2?

```
1 valX
2 valX && valY
3 valA == (valB - 9)
4 valA < valB || valB > valA
5 !valX && !valY
6 (c + b + a == b * b + c / c) || y
7 ! (valX || valY)
8 a <= b && b <= c && c >= a
```

Listing 3: What is the value?

Task 3: Control Flow (8 Points)

The **reverse** method can be called on a String. Use this to create a program that takes input from the user, and the program will check whether the input is a palindrome.

A palindrome is a word or other sequence of characters that read the same backward as forward, such as 'madam' or 'racecar'.