



## Degree in Software Engineering – Computing Basics

### Solution to Unit 2.3 Exercises: Input/Output

This document includes the solution to the exercises of the document “Unit 2.3 Exercises: Input/Output”. It is recommended that you try doing the exercises without looking at the solutions first, and then you check your answers. Please note there might be multiple solutions to the same problem.

#### Exercise 1

Proposed solution:

```
x = float(input("Initial position (m): "))
v = float(input("Initial velocity (m/s): "))
a = float(input("Acceleration (m/s^2): "))
t = float(input("Time (s): "))

result = x + v * t + (a * t * t) / 2

print("The position of the object after {}s is {:.2f}m".format(t, result))
```

#### Exercise 2

Proposed solution:

```
a = float(input("Length of the first cathetus: "))
b = float(input("Length of the second cathetus: "))

result = (a * a + b * b) ** (1 / 2)

print("The length of the hypotenuse is {:.2f}".format(result))
```

#### Exercise 3

Proposed solution:

```
num = int(input("Input an integer number: "))

print("{}'s binary representation is {}".format(num, bin(num)))
print("{}'s hexadecimal representation is {}".format(num, hex(num)))
```

Alternative solution:

```
num = int(input("Input an integer number: "))

print("{0}'s binary representation is 0b{0:b}".format(num))
print("{0}'s hexadecimal representation is 0x{0:x}".format(num))
```



## Exercise 4

Proposed solution:

```
x1 = float(input("Input the first value: "))
x2 = float(input("Input the second value: "))
x3 = float(input("Input the third value: "))

avg = (x1 + x2 + x3) / 3
stddev = (((x1 - avg) ** 2 + (x2 - avg) ** 2 + (x3 - avg) ** 2) / 3) ** (1 / 2)

print("The average is {:.2f} and the std dev is {:.2f}".format(avg, stddev))
```