



Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών
Τμήμα Πληροφορικής & Τηλεπικοινωνιών

Προηγμένες Μέθοδοι Προγραμματισμού

ΠΜΣ 2022-23 (M135.CS1E, M135.CS23B, M135.IC1E, παλαιό:
M117)

Functional Programming

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Functional programming

- The function is the dominant form of abstraction:
 - functions invoking other functions,
 - functions accepting other functions as arguments,
 - functions returning functions as results.

Key characteristics

- Pure functions (referential transparency): functions invoked with the same arguments return the same results (no side-effects).
- (Tail-)Recursion (instead of iteration).
- Immutability (no state mutations).
- Function composition, partial functions & currying.
- Lazy evaluation.

Higher-order functions

Javascript Arrays

Groovy Collections

Basic concepts

Introduction

- Assignments -> Argument passing

```
x = e  
y = x + 5  
y - 3
```

```
(y => y - 3)( (x => x + 5)(e) )
```

Currying

Function currying in JS

FP in Groovy

Functional programming in Groovy