# Disjoint Union Types in P0

## Project 9 / Group 8

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1. Objective & Implementation
2. Examples
3. Implementation Evaluation and Notes
4. Future Work

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# What are Disjoint Union Types?

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# How were they implemented?

# Grammar Changes

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# Grammar Changes

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# Grammar Changes

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# Grammar Changes

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# Example: Maybe & Either

# Example: Lists

# Example: Strings

## Remark

Sample text

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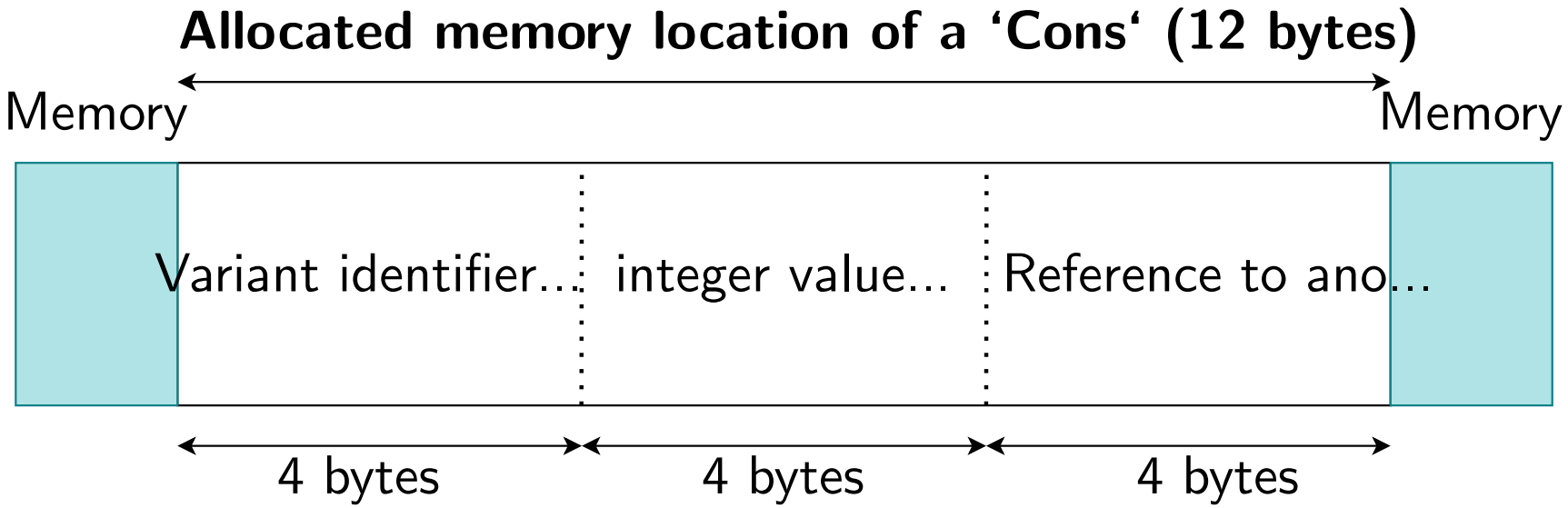
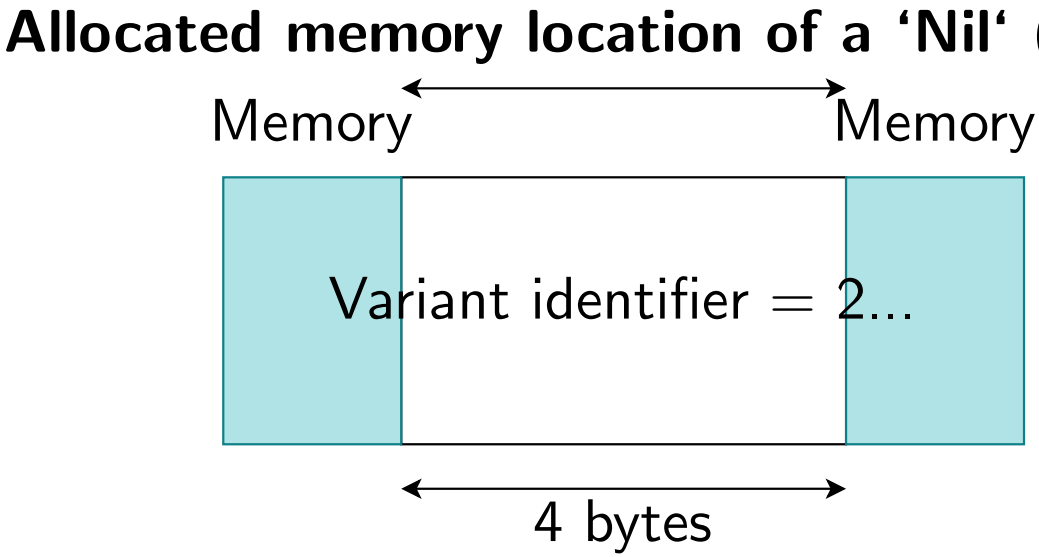
# Memory Impact & Management

Each instance of an ADT is located on the heap, and instances of local/global ADTs are pointers to the locations of their corresponding ADT on the heap.

# Example: Lists in Memory



# Notable Design Decisions

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# Notable Design Decisions

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# Notes on Runtimes

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- Improved Memory Management
  - Memory freeing!
  - Memory reuse!
  - Built-in disjoint union type allocation specialization!

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- Type variables!
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  - More code reuse!

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  - Memory freeing!
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  - Built-in disjoint union type allocation specialization!
- Type variables!
  - Polymorphic disjoint union types! No more StringLists, IntLists, BooleanLists!
  - More code reuse!
- More built-in types and syntactic sugars (Strings, Lists, Maps, "abcd..")
  - Strings, Lists, Maps
  - Stronger syntactic sugar for String generation (e.g., "abcd..." for quickly instantiating large strings)

# References