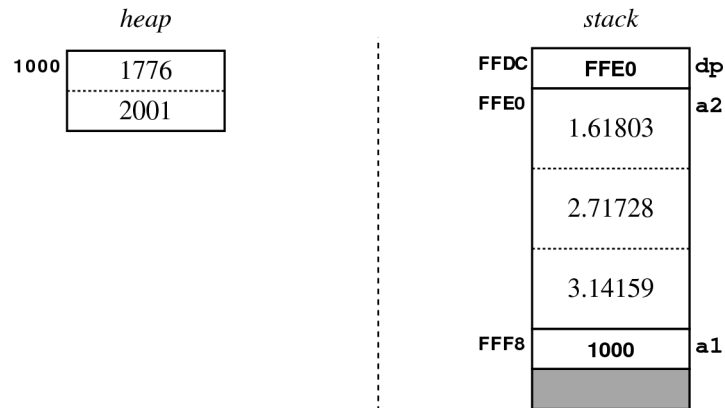


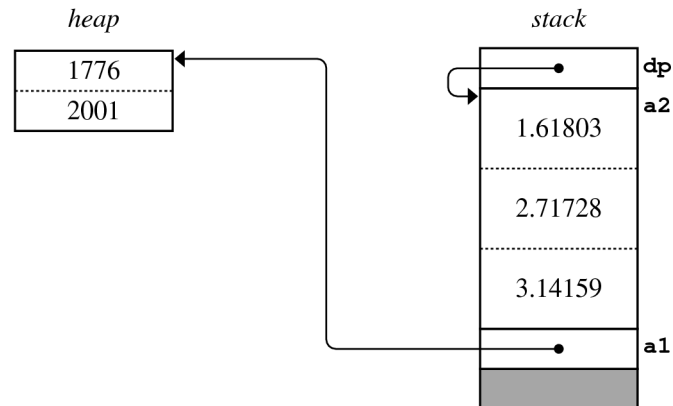
Solutions to Section Handout #4

Problem 1. Differentiating the stack and the heap

1a) Diagram using explicit addresses:



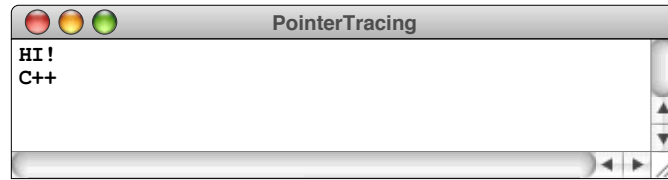
1b) Diagram using arrows:



Problem 2: Pointer arithmetic

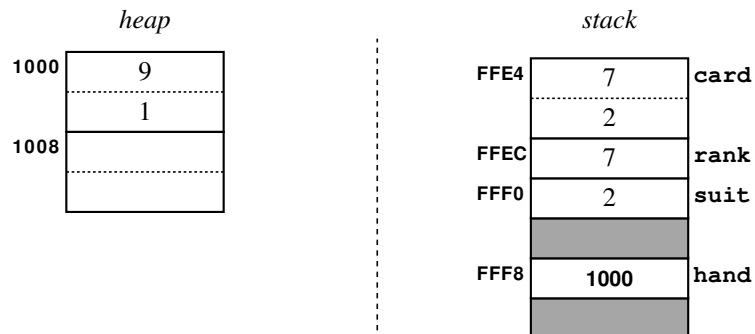
- 2a) $\mathbf{a1[1]}$ $\rightarrow$ 2001
- 2b) $\mathbf{a2[2]}$ $\rightarrow$ 3.14159
- 2c) $\mathbf{*a1}$ $\rightarrow$ 1776
- 2d) $\mathbf{*dp}$ $\rightarrow$ 1.61803
- 2e) $\mathbf{*(dp + 1)}$ $\rightarrow$ 2.71828
- 2f) $\mathbf{\&a2[3] - dp}$ $\rightarrow$ 3

3. Pointer tracing

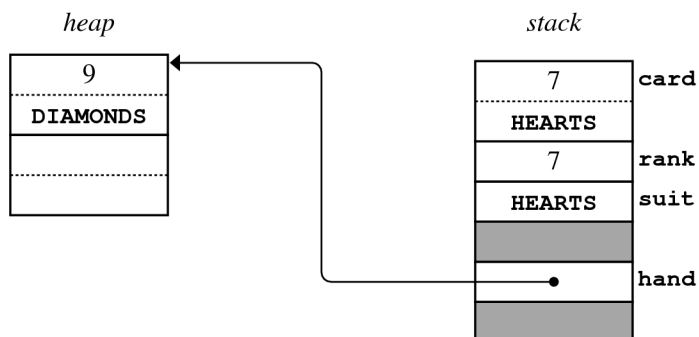


4. Heap-stack diagrams

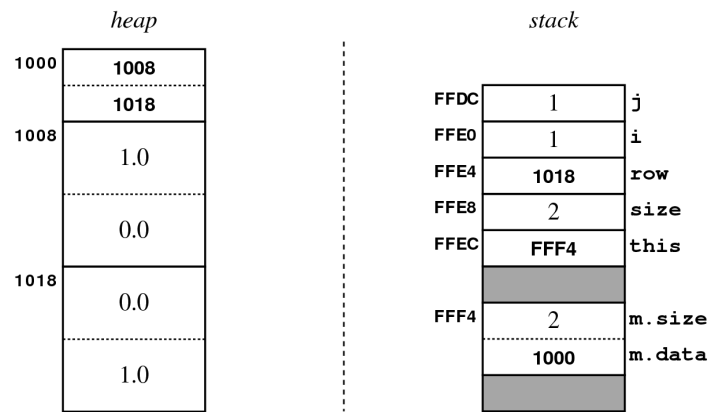
4a. The following diagram uses explicit addresses, along with the internal numeric values of the `suit` enumerated type:



4b. This version eliminates addresses entirely and uses arrows to represent pointers. It also shows the `suit` constant names instead of their underlying values:



4b.
explicit addresses



arrow representation

