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Homework 11

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### **Question 11.10**

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The OCaml garbage collector is a modern hybrid generational/incremental collector. (source: [http://www.ocaml-tutorial.org/garbage\\_collection](http://www.ocaml-tutorial.org/garbage_collection))

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### **Question 11.1**

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Generational garbage collection is a form of automated memory management where objects or entities in a language are assigned an age value that is incremented if the object is not used or referenced for a pre-specified amount of time. Once the generation value reaches a certain threshold, the object is designated as disposable memory that can be re-allocated to other objects. When an object is referenced, the generation of the object is set to the youngest value.

Performing generational garbage collection requires overhead but is less prone to some of the problems of keeping a reference counter as a means of garbage collection; namely, generational garbage collection can identify circular references as the references degrade to older and unused generations – a problem that plagues reference counting.

References:

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Lieberman, H. and Hewitt, C. 1983. A real-time garbage collector based on the lifetimes of objects. *Commun. ACM* 26, 6 (Jun. 1983), 419-429

Printer, Zachary. "A Glance At Garbage Collection in Object-Oriented Languages." OS News. 2004. 13 Mar. 2009 <<http://www.osnews.com/story/6864> Retrieved>.