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Homework #8

1.

	auto	static	VSA	dynamic	alloca
Created when?	Entry to function	Program load	Entry to block	Determined by programmer	Entry to block
How many objects?	Multiple	Single	Multiple	Single	Multiple
Destroyed when?	Return from function	Program termination	Exit from block	Determined by programmer	Return from function
Initialized when?	Entry to block	Program load	Entry to block	Only by assignment statement	Entry to block
Allocated where?	Stack	Data segment	Stack	Heap	Stack

3. (a) automatic, register, dynamic, alloca, VSAs
   (b) static
   (c) static
   (d) automatic, dynamic, alloca, VSAs
   (e) dynamic, alloca
   (f) auto, register, alloca, VSAs
   (g) static, dynamic
   (h) dynamic
   (i) none
   (j) automatic
   (k) register
   (l) dynamic, alloca
   (m) none
   (n) automatic, static, dynamic, VSAs, register

4. b) takes the most memory. Both a) and c) use 100,000 bytes because they release memory for reuse before allocating more memory. b) uses 200,000 bytes.

5. b) takes the most memory.

6.
1) 0
2) 1, then 2 (2nd iteration)
3) 0
4) 1, then 3 (2nd iteration)
5) 0
6) 1
7) 2, then 4
8) 4
9) 5, then 6
10) 0

7. 1, 1, 1, 2.

9. 0, 4, 5, 7, 2, 3.

11.
1) 0 bytes
2) 2,000 bytes
3) 0 bytes
4) 1,000 bytes
5) 5,000 bytes
6) 4,000 bytes