



NUMBER :	NAME :	EXAM GRADE	
Rules to be Obeyed During the Exam		SIGNATURE:	[.....]
1. Cell phones are not allowed to be used as a calculator or a watch. They must be switched off and placed in the pocket. 2. Brief information about the exam will be given at the beginning, then no one is not allowed to ask a question during the exam. 3. Do not to forget to sign this paper after writing your number and name.			

<pre> void right(int i, int p, int n,int k) { cout << i << endl; if(n == k) return; else right(i+p, p, n+1, k); } void down(int i, int p, int n, int k) { if(n == k) cout << i << endl; else right(i, p, 1, k); if(i == 1) return; else down(i/2, p/2, 1, k*2); } void main() { down(8, 16, 1, 1); } </pre>	<u>Output</u>
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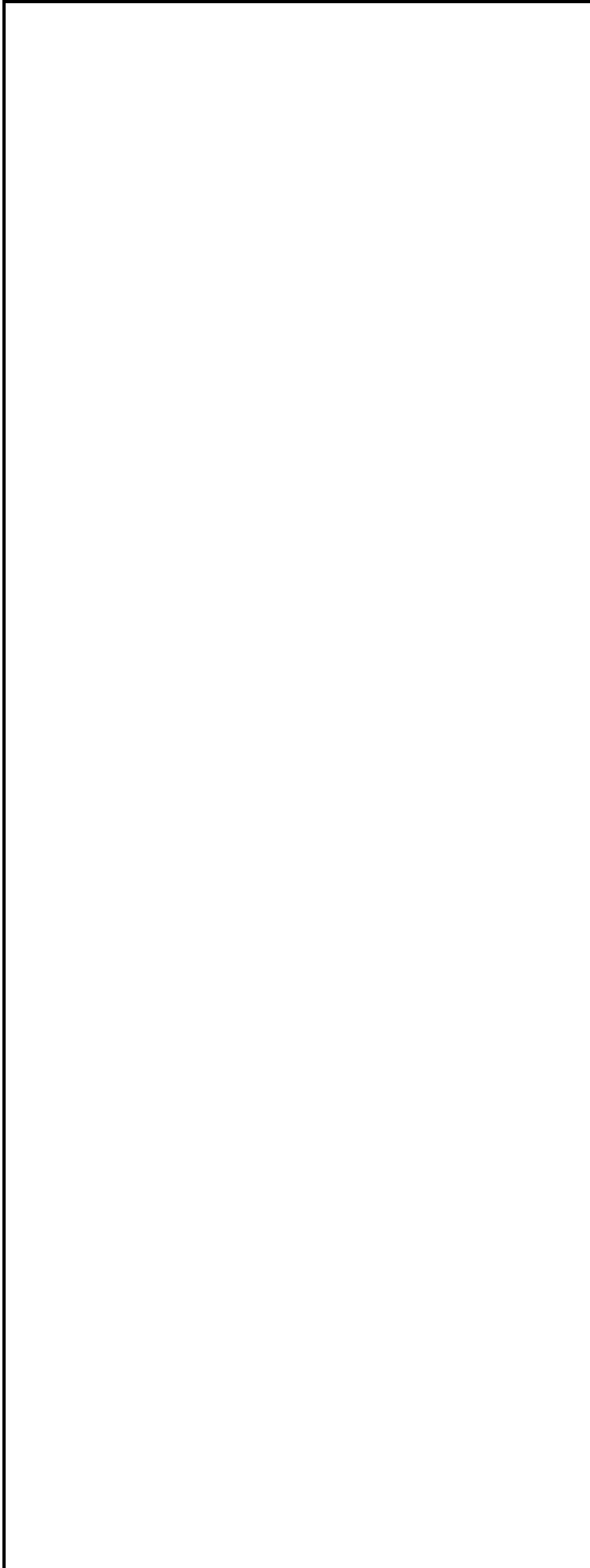
7 6 5 4 3 2 1

2. Insert elements above into a Heap. (25P)

1. What is the output of the program above? (25P)

2 3 4 5 6 7 1

3. Insert elements above into a Splay Tree. (25P)



1 2 3 4 5 6 7 8 9

4. Insert elements above into a 2-3-4 Tree. (25P)

