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M362K (57055), Homework #11  
Instructor: Ravi Srinivasan

Due: 12pm, Wednesday, Apr. 28

Note: Please include your name and UT EID on the front page. To get credit, please show your work and not only your final answer. Please keep answers organized in the same order the problems have been assigned.

Complete the following problems from ``Probability,`` by Jim Pitman:

--Independent normal r.v.'s--

\* pp. 367-369, 2,3,4,8,12

\* pp. 387-388, 7,8,12,15

--Conditional distributions: discrete case--

\* pp. 398-399, #2,3,4,5

\* p. 466, #1

--Conditional expectation: discrete case--

\* pp. 407-408, #1,4,6,11

\* pp. 466-469, #1,2,24

--Extra credit (2 points)--

\* p. 409, #17

[Note: Expand the square in the conditional expectation, use that  $g(x)$  is some constant  $c$  for each fixed  $x$ , and minimize the appropriate expression by differentiating w.r.t.  $c$  and setting equal to 0.]

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