Domáca úloha 7
Termín odovzdania: 17.4.2008

- *Ak úlohu (alebo jej časť) posielate e-mailom, pošlite ju na adresu **bs.ulohy@gmail.com** so subjectom **ekonometria - du7 - vase priezvisko***

1. *(15 bodov)* **Snow geese**[1] Aerial survey methods are regularly used to estimate the number of snow geese in their summer range areas west of Hudson Bay in Canada. To obtain estimates, small aircraft fly over the range and, when a flock of geese is spotted, an experienced person estimates the number of geese in the flock. To investigate the reliabity of this method of counting an experiment was conducted in which an airplane carrying two observers flew over $n = 45$ flocks, and each observer made an independent estimate of the number of birds in each flock. Also, a photograph of the flock was taken so that an exact count of number of birds in the flock could be made. The resulting data are given in the file `geese.txt`.

   Denote y = photo count, x_1 = count by observer 1 and x_2 = count by observer 2.

   (a) Compute the regressions
   $$y = \alpha + \beta x + \varepsilon$$
   for $x = x_1$ and $x = x_2$ by ordinary least squares.

   (b) Test the hypothesis
   $$\alpha = 0, \ \beta = 1$$
   for each observer. State in words the meaning of this hypothesis and result of the test.

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[1]Cook, R. D., Jacobsen, J. O.: Analysis of 1977 West Hudson Bay snow goose surveys. Unpublished report, Canadian Wildlife Service, 1978.