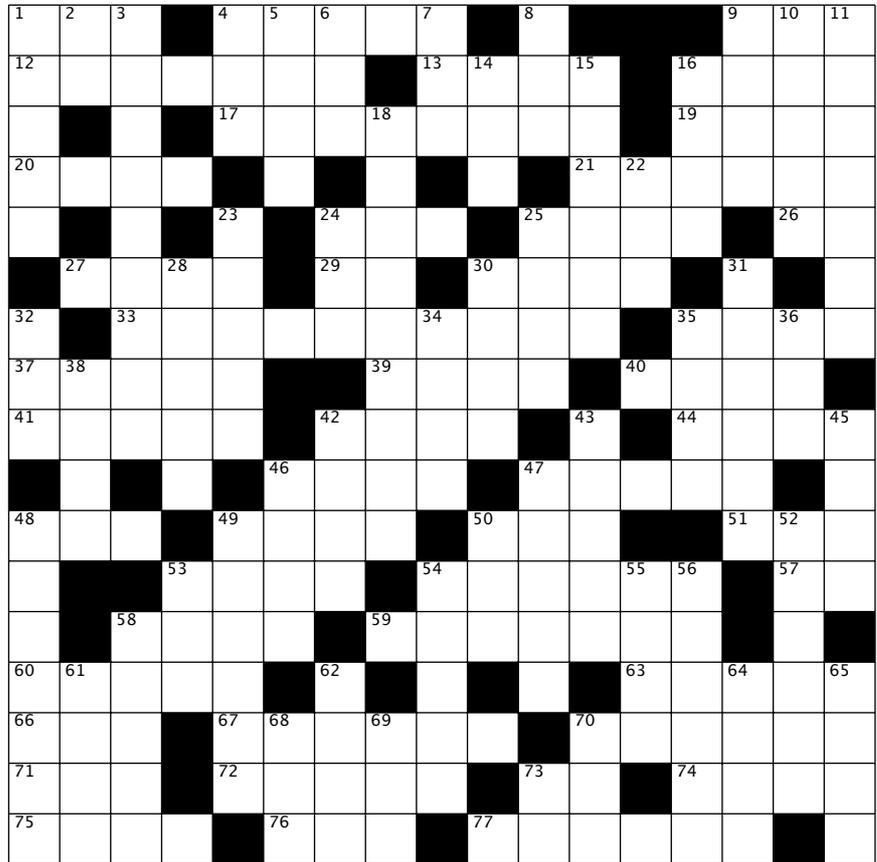# A first topology crossword puzzle   Created by Jean Goubault-Larrecq

ACROSS

1. Continuous surjective map, in Top.
4. Heine-___: criterion for compactness (Prop. 3.3.7)
9. A category with application and currification (Sec. 5.5.3)
12. Feature of a subset that meets every non-empty open (Def. 4.1.29)
13. Favorite dog, for surfers?
16. A discontinuity... but not in topology
17. Every subset is open (Example 4.1.15)
19. ___ 51
20. One who is left adjoint (Sec. 5.5.2)
21. Where closed sets can be separated (Def. 4.1.22)
24. Greatest lower bound
25. Eccentric
26. Titanium
27. Stick it in your ear
29. Small duration
30. Finished
33. Directed families of such deflations are needed in bifinite domains (Def. 9.6.8)
35. Pealed
37. Number of deadly sins
39. Not any
40. ___-dimensional: Stone spaces, or ultrametric spaces, e.g. (Ex. 4.1.34)
41. What one needs to solve an exercise
42. A lot
44. Easter favorites
46. The Zariski topology of its spectrum is spectral (Ex. 9.5.38)
47. A family of subsets, closed under unions of chains (Prop. 6.3.17)
48. Contains elements
49. A quick way of losing weight?
50. Doctor, time lord
51. 2000 or 2240 pounds avoirdupois
53. Bourbaki-___, a fixed point existence theorem (Thm. 2.3.1)
54. ___-Urysohn extension theorem (Ex. 6.3.23)
57. English-speaking country
58. A computer scientist's tool to deal with nails?
59. Insertion theorem, first part (Ex. 6.3.21)
60. Element of a space
63. They are complete according to Cauchy, but not according to Scott
66. Linux Kernel in a Nutshell
67. ___ continuous: assumption in first Arzela-Ascoli-Kelley theorem (Thm. 5.4.38)
70. Published once a year
71. Before, to the poet
72. ___'s theorem: a complete lattice is completely distributive iff prime-continuous (Ex. 8.3.16)
73. Kansas Auntie
74. Hausdorff
75. Lightly cooked
76. Young child
77. Form of vocal music

DOWN

1. Build
2. Sch. class
3. The topological spaces with this property are the continuous complete lattices (Ex. 9.3.9)
4. Tender
5. Of the ear
6. Royal Yacht Squadron
7. One of the two main classes of routing protocols used in packet switching networks
8. Strongly rhythmical, as in jazz
9. Underground storage organ present in plants
10. Deception
11. Useless activity in Newcastle?
14. Stroke affectionately
15. Renter
16. Queen of Scots
18. X is ___ iff compact-open and Isbell coincide on [X -> S] (Ex. 5.4.12)
22. First after 40-across
23. Complements of closed
24. Mischievous child
25. Domain
28. Downward-closed and directed (Def. 5.1.45)
30. Refuse access to
31. One end of a morphism (Sec. 4.12)
32. Next-to-last, to Greeks
34. Second part of 59-across
35. Part of a movie
36. Christmas drink
38. In a graph (Sec. 4.12)
42. Haze
43. Author of theorem in 3-down
45. Everything but the kitchen ___
46. Assign a standard to
47. Aardman studios' Shaun, e.g.
48. Part of a subnet (Def. 4.7.24)
49. Upward-closed, and closed under finite infs (Def. 8.1.9)
50. Mental sharpness
52. Ban
53. Aim of player alpha in the strong Choquet game (Sec. 7.6.1)
54. Score
55. ___'s Lemma: in inductive posets, maximal elements exist (Thm. 2.4.2)
56. Things that happen
58. With more opens (Sec. 4.1.1)
61. Gumbo
62. Biggest little city in the World
64. Car
65. ___ but sure
68. Large tank
69. Central to Moore-Smith convergence (Def. 4.7.2)
70. So ___: me too
73. Queen Elizabeth