Re: Is CW a local property?

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- *From*: sanchopancho80@xxxxxx
- *Date*: Sun, 07 Oct 2007 08:46:29 −0700

On 6 Okt., 11:51, Keith Ramsay <kram...@xxxxxxx> wrote:

> On Oct 5, 4:04 am, sanchopanch...@xxxxxx wrote:
> |can anyone help me to show that the Long−Line is not a CW complex but
> |a 'local CW complex' in the sense of the first post?
>
> Since each point on the long line has an
> open neighborhood homeomorphic to an open
> interval on the real line, the latter is
> easy.
>
> The long line doesn't have a homeomorphic
> copy of the interior of B^n for n>1, so if
> it were a CW complex, it would be a 1−frame.
> Suppose it is. The points in the 0−frame
> can't have an upper bound because there
> would be no way to glue a 1−cell so that it
> included any of the points above the upper
> bound. So there have to be uncountably many
> points in the 0−frame. It's only possible
> to connect a point in the 0−frame to two
> others, so only countably many points in the
> 0−frame can be path−connected. But the long
> line is path−connected. Details need to be
> filled in.
>
> Keith Ramsay

Hello,
thank you! The long line isn't a compact space. Is the question above
trivial for compact spaces?
Greets
Sancho

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