Re: Exists an ordinal set{1,2,3,... }which has 2^xo elements : Demonstration:

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From: Virgil (*ITSnetNOTcom#virgil_at_COMCAST.com*)
Date: 07/31/04

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Date: Sat, 31 Jul 2004 13:31:24 −0600
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In article <2cf2d21.0407310619.1e384c0f@posting.google.com>,
david.ferguson1@cox.net (David P. Ferguson) wrote:

\> Andre Caldas <andre@lugar_nenhum.invalid> wrote in message
\> news:<40f68cf0$1@post.usenet.com>...
\> > **** Post for FREE via your newsreader at post.usenet.com ****
\> >
\> > Hello, David!
\> >
\> > David P. Ferguson wrote:
\> > > I recently submitted a post "My list" in which I claimed to have
\> > > provided a
\> > > list of the subsets Of N.
\> >
\> > I think I saw your post somewhere. You had a "computational" proof of
\> > what you are claiming, right?
\> >
\> > There is a difference between saying a set is "countable" and saying you
\> > can make a "list of it's elements". I think you are just "well−ordering"
\> > the subsets of N. That would be the "well−ordering principle" − which is
\> > equivalent to the axiom of choice.
\> >
\> > Would you tell me what you mean by "list"?
\> >
\>
\> A list is something of the form:
\> A = {a1, a2, a3, a4, ...} if every element of B is an element of A
\> then B is listable.

In other words, a list is a function whose domain is N.

It is not clear from the example given whether that function is required
to be injective though it would appear necessary that it be surjective.

Note that A, AS A LIST, is not merely a set. To distinguish between sets
and llists, I shall use "{" and "}" to delimit sets and "(" and ")" to

delimit lists.

> *If there is no A = (a1, a2, a3, ...) such that B sub A then B is*
> *unlistable.*

This makes no sense if A is to be regarded as a list.

>
> *The set N x N is listable since*
> *A = ((1, 1), (2, 1), (2, 2), ...) contains every element of N x N.*
>
> *This is clear since there are only 1 + 3 + 5 + 7 + ... elts in N x N.*

That comment makes what was previously clear totally obsure, since the
infinite sum is question has no value.

>
> *P(N) is listable since : My list:*
> *ML = ({0}, {0, 1}, {0, 2}, {0, 1, 2}, {0, 3}, {0, 1, 3}, {0, 2, 3},*
> *...) contains every subset of N.*

It does not contain N, which is a subset of N.
And it does not contain ANY infinite subset of N.
So it misses containing most of the subsets of N.
In fact, it appears not even to contain {1} or {2} or {3}, etc.

>
> *"This is clear since there are only 1 +2 +4 +8 +16 +... subsets of N."*

This assumes it's conclusion.

>
> *There is ESSENTIALLY no difference in dificulty in providing a list of*
> *the subsets of N as in providing a list of the elements of N x N.*

Except for the fact that one can be and has been done, N x N, and th
other cannot and has not been done, even by David P. Ferguson.

>
> *If N has Infinite subsets then there are infinite serialization*
> *numbers which give the location of those subsets in the list.*

Begs the question. You must show that your index set, incuding all those
"infinite serialization numbers" is countable before you can use it to
"count" anything.

>
> *I know that the subset O of N = {1, 3, 5, ...}.has twice as many*
> *successors in the list as it has predecessors and*

It is remarkable the number of things that David P. Ferguson "knows"
that aren't so. There is only one member of the "list" (1,3,5,...) which
does not have a predecessor in the list

>
> *I know that the subset E of N has twice as many predecessors as*
> *successors in the list.*

It is remarkable the number of things that David P. Ferguson "knows"
that aren't so.
>
> *Certainly Cantor should have observed :*
> *|N x N| = [1 + 3 + 5 + 7 + ...] = Xo^2 and AVG(1, 3, 5, ...} = Xo!*
> *Compare: |P(N)| = [1 + 2 + 4 + 8 + ...] = 2^Xo −1*
> *And |N| = [1 + 1 + 1 + 1 + ...] = Xo*

Cantor was far too canny to "observe" anything so blatantly false.

> *Is L1 = 1, 3, 5, 7, ... a list?*
> *Is L2 = 1, 2, 4, 8, ... a list?*
> *Is L3 = 1, 2, 3, 4, ... a list?*

Taking N = {0,1,2,3,...} then:

If, by L1 is meant f:N −> N such that f(n) = 2*n+1, then L1 is a list;
if, bl L2 is meant g:N −> N such that g(n) = 2^(n+1), then L2 is a list;
if, by L3 is meant h:N −> N such that h(n) = n+1, then L3 is a list.
>
> *A Cantorian would be lost here.*

On the contrary, a Cantorian would quickly discern that David P. Ferguson is lost here, since David P. Ferguson consistently ignores what Cantor actually did and makes up nonsense about what he thinks Cantor did.