

# Re: Birthday problem for such non-uniform birthday probabilities

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*Source:* <http://sci.tech-archive.net/Archive/sci.math/2005-11/msg03093.html>

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- *From:* "Doug" <nospam@xxxxxxxxxx>
  - *Date:* Mon, 21 Nov 2005 10:30:59 -0600
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"David M Einstein" <Deinst@xxxxxxxxxx> wrote in message  
<news:1132586540.046923.115340@xx>

>

> Doug wrote:

>> "Helmut Zeisel" <helmut.zeisel@xxxxxx> wrote in message

>> <news:dls5fv.5lg.1@xxxxxxxxxxxxxxxxxxxxxxxx>

>>> Consider the birthday problem:

>>>

>>> There are  $n$  randomly chosen person in a room. What is the probability  
>>> that there exist  $k$  persons who have birthday on the same day.

>>>

>>> I know how to compute the probability assuming a uniform birthday  
>>> distribution.

>>>

>>> It is reasonable that this probability increases for a non-uniform  
>>> birthday distribution.

>>>

>>> Where can I find a proof for this result?

>

> Blom, D. (1973), "A birthday problem", American Mathematical Monthly,  
> vol. 80, pp. 1141-1142

>

>>>

>>> Helmut

>>

>> You won't, as it is also reasonable that this probability decreases for a  
>> non-uniform  
>> distribution.

>>

>> You need to specify the "non-uniform" distributions to determine if it  
>> increases/decreases.

>

> I would be very interested in seeing a distribution that decreases the  
> probability of  
> a match.

>

Re: Birthday problem for such non-uniform birthday probabilities

simple- define "distribution" as sequential days beginning on Jan 1

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• *Follow-Ups:*

- ◆ *Re: Birthday problem for such non-uniform birthday probabilities*  
◇ *From: quasi*

• *References:*

- ◆ *Birthday problem for such non-uniform birthday probabilities*  
◇ *From: Helmut Zeisel*
- ◆ *Re: Birthday problem for such non-uniform birthday probabilities*  
◇ *From: Doug*
- ◆ *Re: Birthday problem for such non-uniform birthday probabilities*  
◇ *From: David M Einstein*

• Prev by Date: *Re: Well Ordering the Reals*

• Next by Date: *Re: when does induction fail? well-ordering property?*

• Previous by thread: *Re: Birthday problem for such non-uniform birthday probabilities*

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