Unit 15, part 81.8.8

Aphorisms, advices, anecdotes, brain teasers, curious stories, epigrams, epigraphs, epitaphs, crazy-creative ideas, suggestions and set pieces for thriller and mystery writers, koans, memorabilia, mottos, poems, proverbs, riddles, algorithmics ideas catchment areas, quotations, sayings, slogans, scurrilities, besun, etc., collected for encouragement and the advantage of my students and of myself.
An unconventional challenger, **„Arboretum – Algoretum - Crearetum“.**

Wort-Fundstücke, Gehörtes, Gelesenes, Zugelaufenes, Angeschwemmtes, Ernächtetes,
……..

e und π sind nahe Verwandte
Materialsammlung
Summenformeln XXXXXXXXXXXXXXXXXX

$$e - 1 = \sum_{i=1}^{\infty} \frac{1}{i!}$$

$$\frac{\pi^2}{6} = \sum_{i=1}^{\infty} \frac{1}{i^2}$$

Rekursionsformeln XXXXXXXXXXXXXXXXX

Rekursionsformeln für e xxxxxxxxxxxxxxxxxxxx

$$\mathbf{e} = \prod_{i=1}^{\infty}(1 + a_i^{-1})$$
$$a_1 = 1$$
$$a_{i+1} = (i + 1)(1 + a_i)$$

$$\frac{\mathbf{e}}{\mathbf{2}} \mathbf{-1} =$$
$$\frac{a_1}{a_2 - 1}(1 + \frac{a_2}{a_3 - 1}(1 + \frac{a_3}{a_4 - 1}(1 + \frac{a_4}{a_5 - 1}(1 + \frac{a_5}{a_6 - 1}(1 + \ldots)))))$$
$$a_1 = 1, a_2 = 4,$$
$$a_{i+1} = (2i - 1)(2i + 2)(a_i - 1); i = 2,3,4, \ldots$$

$$\frac{\sqrt[\mathbf{n}]{\mathbf{e}}}{\mathbf{2}} - \mathbf{1} = ?$$

Analoge Rekursionsformeln für π xxxxxxxxxxxxx??

Produktformeln XXXXXXXXXXXXXXXXXXX

Wallis Podukt $\pi/2$

$$\frac{\pi}{2} = \frac{2*2}{1*3} * \frac{4*4}{3*5} * \frac{6*6}{5*7} * \frac{8*8}{7*9} * \frac{10*10}{9*11} * \ldots.$$

Wallis Podukt $\pi/2$, partitionert 1 xxxxxxxxxxxxxxxxx

$$\frac{\pi}{2} = \left(\frac{2}{1}\right) * \left(\frac{2*4}{3*3}\right) * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right) * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13} * \frac{14*16}{15*15}\right) * \ldots$$

→ Pippenger Produkt e/2 xxxxxxxxxxxxxxxxxxxxxx

$$\frac{e}{2} = \left(\frac{2}{1}\right)^{\frac{1}{2}} * \left(\frac{2*4}{3*3}\right)^{\frac{1}{4}} * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right)^{\frac{1}{8}} * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13} * \frac{14*16}{15*15}\right)^{\frac{1}{16}} * \ldots$$

Wallis Produkt $\pi/2$, partitionert 2 xxxxxxxxxxxxxxx

$$\frac{\pi}{2} = \left(\frac{2}{1}\right) * \left(\frac{2*4}{3*3}\right) * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right) * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13}\right) * \ldots$$

→ ??? xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

$$??? = \left(\frac{2}{1}\right)^{\frac{1}{2}} * \left(\frac{2*4}{3*3}\right)^{\frac{1}{3}} * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right)^{\frac{1}{4}} * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13}\right)^{\frac{1}{5}} * \ldots$$

Related problems

Problem 1

Untersuchung weiterer unendlicher Wallis-basierter Produkte des Typs

$$\frac{e}{2} = \left(\frac{2}{1}\right)^{\frac{1}{2}} * \left(\frac{2*4}{3*3}\right)^{\frac{1}{4}} * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right)^{\frac{1}{8}} * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13} * \frac{14*16}{15*15}\right)^{\frac{1}{16}} * \ldots$$

für verschiedene Teilprodukt-Potenzen, z.B.

$$??? = \left(\frac{2}{1}\right)^{\frac{1}{2}} * \left(\frac{2*4}{3*3}\right)^{\frac{1}{3}} * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right)^{\frac{1}{4}} * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13}\right)^{\frac{1}{5}} * \ldots$$

Problem 2

Algorithmus zur Darstellung einer positiven reellen/transzendenten Zahl (insbesondere mathematische Konstante) durch ein unendliches Produkt des vorstehenden Typs, analog zu scf-Entwicklung?

→ Crypto coding?

DS's Wallis-e/2-Sandkasten

Thema

$$A = \left(\frac{2}{1}\right)^{\frac{1}{2}} * \left(\frac{2*4}{3*3}\right)^{\frac{1}{4}} * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right)^{\frac{1}{8}} * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11} * \frac{12*14}{13*13} * \frac{14*16}{15*15}\right)^{\frac{1}{16}} *$$
$$\left(\frac{16*18}{17*17} * \frac{18*20}{19*19} * \frac{20*22}{21*21} * \frac{22*24}{23*23} * \frac{24*26}{25*25} * \frac{26*28}{27*27} * \frac{28*30}{29*29} * \frac{30*32}{31*31}\right)^{\frac{1}{32}}$$

A = 1.35936209622146909 78…

e/2 = 1.35914091422952261 77…

A-e/2 = 0.00022118199194648 01…

Variation 1

$$B = \left(\frac{2}{1}\right)^{\frac{1}{2}} * \left(\frac{2*4}{3*3}\right)^{\frac{1}{4}} * \left(\frac{4*6}{5*5} * \frac{6*8}{7*7}\right)^{\frac{1}{8}} * \left(\frac{8*10}{9*9} * \frac{10*12}{11*11}\right)^{\frac{1}{12}} * \left(\frac{12*14}{13*13} * \frac{14*16}{15*15}\right)^{\frac{1}{16}} *$$

$$\left(\frac{16*18}{17*17}*\frac{18*20}{19*19}\right)^{\frac{1}{20}}*\left(\frac{20*22}{21*21}*\frac{22*24}{23*23}\right)^{\frac{1}{24}}*\left(\frac{24*26}{25*25}*\frac{26*28}{27*27}\right)^{\frac{1}{28}}*\left(\frac{28*30}{29*29}*\frac{30*32}{31*31}\right)^{\frac{1}{32}}$$

B = 1.3585394816940112918…

e/2 = 1.3591409142295226177…

B-e/2 = -0.0006024325355113259…

Variation 2

$$C=\left(\frac{2}{1}\right)^{\frac{1}{2}}*\left(\frac{2*4}{3*3}\right)^{\frac{1}{4}}*\left(\frac{4*6}{5*5}*\frac{6*8}{7*7}\right)^{\frac{1}{8}}*\left(\frac{8*10}{9*9}*\frac{10*12}{11*11}*\frac{12*14}{13*13}\right)^{\frac{1}{14}}*$$

$$\left(\frac{14*16}{15*15}*\frac{16*18}{17*17}*\frac{18*20}{19*19}*\frac{20*22}{21*21}\right)^{\frac{1}{22}}*$$

$$\left(\frac{22*24}{23*23}*\frac{24*26}{25*25}*\frac{26*28}{27*27}*\frac{28*30}{29*29}*\frac{30*32}{31*31}\right)^{\frac{1}{32}}$$

C = 1.3589775071656157415…

e/2 = 1.3591409142295226177…

C-e/2 = -0.0001634070639068762…

Variation 3,4,…?

Nested expressions XXXXXXXXXXXXXXXXXXXX

Nested expression für e xxxxxxxxxxxxxxxxxxxxxxxxx

$$e-1=1+\frac{1}{2}(1+\frac{1}{3}(1+\frac{1}{4}(1+\frac{1}{5}(1+\frac{1}{6}(1+\cdots$$

Nested expressions für π xxxxxxxxxxxxxxxxxxxxxxxxx

$$\frac{\pi}{2}=1+\frac{1}{3}(1+\frac{2}{5}(1+\frac{3}{7}(1+\frac{4}{9}(1+\frac{5}{11}(1+\cdots$$

$$\pi=3+\frac{1}{3*4*5}(8+\frac{2*3}{3*7*8}(13+\frac{3*5}{3*10*11}(18+\frac{4*7}{3*13*14}(23+\frac{5*9}{3*16*17}(28+\ldots$$

Kettenbrüche XXXXXXXXXXXXXXXXXXXXX

$$** \; e-2=\cfrac{2}{2+\cfrac{3}{3+\cfrac{4}{4+\cfrac{5}{5+\cfrac{6}{6+\cfrac{7}{7+\cdots}}}}}}$$

$$\text{scf}\left(\frac{e^{\frac{1}{n}}-e^{\frac{-1}{n}}}{e^{\frac{1}{n}}+e^{\frac{-1}{n}}}\right)=\text{scf}(\tanh\frac{1}{n})=$$

$$\cfrac{1}{a_1+\cfrac{1}{a_2+\cfrac{1}{a_3+\cfrac{1}{a_4+\cfrac{1}{a_5+\cdots}}}}}$$; $a_i = n*(2i-1)$; i=1,2,3,…

** $$\frac{4-\pi}{\pi} = \cfrac{1^2}{3+\cfrac{2^2}{5+\cfrac{3^2}{7+\cfrac{4^2}{9+\cfrac{5^2}{11+\cfrac{6^2}{13+\cfrac{7^2}{15+\cdots}}}}}}}$$

Ref.

Sondow, Jonathan and Weisstein, Eric W. "e." From *MathWorld*--A Wolfram Web Resource. https://mathworld.wolfram.com/e.html
https://de.wikipedia.org/wiki/Eulersche_Zahl
https://en.wikipedia.org/wiki/E_(mathematical_constant)
https://en.wikipedia.org/wiki/List_of_representations_of_e
https://en.wikipedia.org/wiki/List_of_formulae_involving_%CF%80
J. Sondow, Huang Yi. New Wallis- and Catalan-Type Infinite Products for π, e, and $\sqrt{2+\sqrt{2}}$.
https://arxiv.org/ftp/arxiv/papers/1005/1005.2712.pdf
A.S. Nimbran, P. Levrie. Infinite Products for e^n via Catalan's Product.
The Mathematics Student Vol. 85, Nos. 3-4
https://www.researchgate.net/publication/301303033_INFINITE_PRODUCTS_FOR_e_n_VIA_CATALAN%27S_PRODUCT
https://de.wikipedia.org/wiki/Mathematische_Konstante
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https://en.wikipedia.org/wiki/Feigenbaum_constants

BESUN

** „Wie Carl Sagan vorrechnet, kann ein Mensch im Laufe seines Lebens höchstens ein zehntel Prozent der Werke lesen, die in unseren größten Büchereien stehen. …“

** „Mehr Wissen in weniger Zeit.
https://www.**blinkist**.com/de/

** https://www.spektrum.de/news/kon-tiki-thor-heyerdahl-und-die-irrsinnige-fahrt-ueber-den-pazifik/2013913#Echobox=1651129461?utm_source=pocket-newtab-global-de-DE

** S. Lantin et al. Interstellar space biology via Project. Starlight.
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** Farisenkov, S.E. et al. Novel flight style and light wings boost flight performance of tiny beetles.
Nature 602, 96–100 (2022).
https://doi.org/10.1038/s41586-021-04303-7

** Edward Powys Mathers. Cain's Jawbone: A Novel Problem.
Unbound 2021, ISBN-13: 978-1800180796
https://www.sueddeutsche.de/leben/cain-s-jawbone-krimi-raetsel-preisgeld-1.5579129
https://www.amazon.de/-/en/Edward-Powys-Mathers/dp/1800180799/ref=sr_1_1?crid=1V1DUTQ4ZEFGP&keywords=Cain%27s+Jawbone&qid=1655586812&sprefix=cain%27s+jawbone%2Caps%2C64&sr=8-1

„Er erkennt sogar den Dialekt von Vögeln.“

** **https**://www.saechsische.de/kamenz/freizeit-kamenz/haselbachtal-ein-junger-mann-und-die-feldlerche-5711615-plus.html
** **https**://www.stern.de/wirtschaft/start-up-gruender---wie-ein-italienischer-rentner-mit-87-milliardaer-wurde-31981022.html?utm_source=pocket-newtab-global-de-DE

Angeschwemmtes, auch Vieldeutiges
In einer anderen Zeitebene
Offene Geheimhaltung
Spanischer Kulturraum
Geschäftsanbahnungstechnologie
Das g/Große Fahrzeug
Kryptomathematik
Gravitative Rückkopplung
„Intelligent life is a need in the cosmic scale“. C. Sagan
→ T. Westby et al. The Astrobiological Copernican Weak and Strong Limits for Intelligent Life.
The Astrophysical Journal, Volume 896
Spiegeluniversum:
https://www.nationalgeographic.de/wissenschaft/2022/06/spiegeluniversum-hat-unser-universum-einen-umgekehrten-zwilling?utm_source=pocket-newtab-global-de-DE

Fundstücke
https://www.nzz.ch/feuilleton/adornos-vorlesungen-alles-was-sie-ueber-dialektik-wissen-wollen-ld.1689794?utm_source=pocket-newtab-global-de-DE
https://www.wiwo.de/erfolg/management/konzentrationsforscher-fuer-bessere-konzentration-gibt-es-einfache-und-schnelle-dinge-/28465656.html?utm_source=pocket-newtab-global-de-DE

https://krautreporter.de/4441-dieser-text-wird-andern-was-du-uber-dein-denken-denkst?utm_campaign=pocket-visitor

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https://www.spektrum.de/news/kalifornien-zuendeln-gegen-die-waldbrandgefahr/2028697
https://www.nationalgeographic.de/wissenschaft/2022/07/kampf-gegen-superkeime-kommen-jetzt-neue-antibiotika?utm_source=pocket-newtab-global-de-DE

Für Jonathan
Zur Diskussion:
** https://web2.cylex.de/firma-home/**goede-wissenschafts-stiftung-institut-fuer-gravitationsforschung**
** **Phantastische Bibliothek Wetzlar**
https://www.phantastik.eu/
** https://www.n-tv.de/wissen/Ein-grosser-Fortschritt-im-**Kampf-gegen-AIDS**-article23420362.html?utm_source=pocket-newtab-global-de-DE
Ausloten der Identität

$$1-\frac{1}{3}\left(1-\frac{1}{15}\left(1-\frac{1}{63}\left(1-\frac{1}{255}\left(1-\frac{1}{1023}(\ldots)\right)\right)\right)\right)=$$

$$\cfrac{1}{1+\cfrac{1}{2+\cfrac{3}{14+\cfrac{15}{62+\cfrac{63}{254+\cfrac{255}{1022+\cfrac{1023}{4094+\cdots}}}}}}} = 0.68853753712\ldots \ ?$$

$\sqrt[n]{e}$ + **Lateral**

$$\text{scf}\left(1+\frac{\frac{1}{8}}{e^{\frac{1}{8}}-1}\right)=\text{scf}\left(\frac{\sqrt[8]{e}-\frac{7}{8}}{\sqrt[8]{e}-1}\right)=$$

[1; 1, 15, 2, 1, 15, 4, 1, 15, 6, 1, 15, 8, 1, 15, 10, 1, 15, 12, 1, 15, 14, 1, 15, 16, 1, 15, 18, 1, 15, 20, 1, 15, 22, 1, 15, 24, 1, 15, 26, 1, 15, 28, 1, 15, 30, 1, 15, 32, 1, 15, 34, 1, 15, 36, 1, 15, 38, 1, 15, 40, 1, 15, 42, 1, 15, 44, 1, 15, 46, 1, 15, 48, 1, 15, 50, 1, 15, 52, 1, 15, 54, 1, 15, 56, 1, 15, 58, 1, 15, 60, 1, 15, 62, 1, 15, 64, 1, 15, 66, 1, 15, 68, 1, 15, 70, 1, 15, 72, 1, 15, 74, 1, 15, 76, 1, 15, 78, 1, 15, 80, 1, 15, 82, 1, 15, 84, 1, 15, 86, 1, 15, 88, 1, 15, 90, 1, 15, 92, 1, 15, 94, 1, 15, 96, 1, 15, 98, 1, 15, …]

Vollständig systematischer Aufbau des scf aus protected geraden Zahlen in monoton steigender Folge mit dem Abstand 2 und dazwischenliegenden bodyguards 1,15,

Enthält keine Primzahl > 2.

Verallgemeinerung

$$\text{scf}\left(1+\frac{\frac{1}{n}}{e^{\frac{1}{n}}-1}\right)=\text{scf}\left(\frac{\sqrt[n]{e}-\frac{n-1}{n}}{\sqrt[n]{e}-1}\right)=$$

[1; 1, k=2n-1, 2, 1, k, 4, 1, k, 6, 1, k, 8, 1, k, 10, 1, k, 12, 1, k, 14, 1, k, 16, 1, k, 18, 1, k, 20, 1, k, 22, 1, k, 24, 1, k, 26, 1, k, 28, 1, k, 30, 1, k, 32, 1, k, 34, 1, k, 36, 1, k, 38, 1, k, 40, 1, k, 42, 1, k, 44, 1, k, 46, 1, k, 48, 1, k, 50, 1, k, 52, 1, k, 54, 1, k, 56, 1, k, 58, 1, k, 60, 1, k, 62, 1, k, 64, 1, k, 66, 1, k, 68, 1, k, 70, 1, k, 72, 1, k, 74, 1, k, 76, 1, k, 78, 1, k, 80, 1, k, 82, 1, k, 84, 1, k, 86, 1, k, 88, 1, k, 90, 1, k, 92, 1, k, 94, 1, k, 96, 1, k, 98, 1, k, …]



Immer wieder, …, üben den aufrechten Gang

11.07.2022 EPScoll&alg Dscalc&alg