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is not possible to find a simple formula for a_k . However, we can give an asymptotic formula for a_k when $k \rightarrow \infty$.

Let us first consider a_0 . We have $a_0 = 1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4} + \frac{1}{5} - \frac{1}{6} + \frac{1}{7} - \frac{1}{8} + \frac{1}{9} - \frac{1}{10} + \frac{1}{11} - \frac{1}{12} + \frac{1}{13} - \frac{1}{14} + \frac{1}{15} - \frac{1}{16} + \frac{1}{17} - \frac{1}{18} + \frac{1}{19} - \frac{1}{20} + \frac{1}{21} - \frac{1}{22} + \frac{1}{23} - \frac{1}{24} + \frac{1}{25} - \frac{1}{26} + \frac{1}{27} - \frac{1}{28} + \frac{1}{29} - \frac{1}{30} + \frac{1}{31} - \frac{1}{32} + \frac{1}{33} - \frac{1}{34} + \frac{1}{35} - \frac{1}{36} + \frac{1}{37} - \frac{1}{38} + \frac{1}{39} - \frac{1}{40} + \frac{1}{41} - \frac{1}{42} + \frac{1}{43} - \frac{1}{44} + \frac{1}{45} - \frac{1}{46} + \frac{1}{47} - \frac{1}{48} + \frac{1}{49} - \frac{1}{50} + \frac{1}{51} - \frac{1}{52} + \frac{1}{53} - \frac{1}{54} + \frac{1}{55} - \frac{1}{56} + \frac{1}{57} - \frac{1}{58} + \frac{1}{59} - \frac{1}{60} + \frac{1}{61} - \frac{1}{62} + \frac{1}{63} - \frac{1}{64} + \frac{1}{65} - \frac{1}{66} + \frac{1}{67} - \frac{1}{68} + \frac{1}{69} - \frac{1}{70} + \frac{1}{71} - \frac{1}{72} + \frac{1}{73} - \frac{1}{74} + \frac{1}{75} - \frac{1}{76} + \frac{1}{77} - \frac{1}{78} + \frac{1}{79} - \frac{1}{80} + \frac{1}{81} - \frac{1}{82} + \frac{1}{83} - \frac{1}{84} + \frac{1}{85} - \frac{1}{86} + \frac{1}{87} - \frac{1}{88} + \frac{1}{89} - \frac{1}{90} + \frac{1}{91} - \frac{1}{92} + \frac{1}{93} - \frac{1}{94} + \frac{1}{95} - \frac{1}{96} + \frac{1}{97} - \frac{1}{98} + \frac{1}{99} - \frac{1}{100}$.

Now we can see that a_0 is the sum of the reciprocals of the odd numbers minus the sum of the reciprocals of the even numbers. In other words, $a_0 = \sum_{n=1}^{\infty} \frac{1}{(2n-1)} - \sum_{n=1}^{\infty} \frac{1}{2n}$.

Let us now consider a_1 . We have $a_1 = \frac{1}{2} - \frac{1}{3} + \frac{1}{4} - \frac{1}{5} + \frac{1}{6} - \frac{1}{7} + \frac{1}{8} - \frac{1}{9} + \frac{1}{10} - \frac{1}{11} + \frac{1}{12} - \frac{1}{13} + \frac{1}{14} - \frac{1}{15} + \frac{1}{16} - \frac{1}{17} + \frac{1}{18} - \frac{1}{19} + \frac{1}{20} - \frac{1}{21} + \frac{1}{22} - \frac{1}{23} + \frac{1}{24} - \frac{1}{25} + \frac{1}{26} - \frac{1}{27} + \frac{1}{28} - \frac{1}{29} + \frac{1}{30} - \frac{1}{31} + \frac{1}{32} - \frac{1}{33} + \frac{1}{34} - \frac{1}{35} + \frac{1}{36} - \frac{1}{37} + \frac{1}{38} - \frac{1}{39} + \frac{1}{40} - \frac{1}{41} + \frac{1}{42} - \frac{1}{43} + \frac{1}{44} - \frac{1}{45} + \frac{1}{46} - \frac{1}{47} + \frac{1}{48} - \frac{1}{49} + \frac{1}{50} - \frac{1}{51} + \frac{1}{52} - \frac{1}{53} + \frac{1}{54} - \frac{1}{55} + \frac{1}{56} - \frac{1}{57} + \frac{1}{58} - \frac{1}{59} + \frac{1}{60} - \frac{1}{61} + \frac{1}{62} - \frac{1}{63} + \frac{1}{64} - \frac{1}{65} + \frac{1}{66} - \frac{1}{67} + \frac{1}{68} - \frac{1}{69} + \frac{1}{70} - \frac{1}{71} + \frac{1}{72} - \frac{1}{73} + \frac{1}{74} - \frac{1}{75} + \frac{1}{76} - \frac{1}{77} + \frac{1}{78} - \frac{1}{79} + \frac{1}{80} - \frac{1}{81} + \frac{1}{82} - \frac{1}{83} + \frac{1}{84} - \frac{1}{85} + \frac{1}{86} - \frac{1}{87} + \frac{1}{88} - \frac{1}{89} + \frac{1}{90} - \frac{1}{91} + \frac{1}{92} - \frac{1}{93} + \frac{1}{94} - \frac{1}{95} + \frac{1}{96} - \frac{1}{97} + \frac{1}{98} - \frac{1}{99} + \frac{1}{100}$.

Now we can see that a_1 is the sum of the reciprocals of the even numbers minus the sum of the reciprocals of the odd numbers. In other words, $a_1 = \sum_{n=1}^{\infty} \frac{1}{2n} - \sum_{n=1}^{\infty} \frac{1}{(2n-1)}$.

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