> with(plots):
a := listplot ([seq(`if`(type(n,even),(1/sqrt(n)),(1/sqrt(n+1))),
n=1..20)]):
b := listplot ([seq(`if`(type(n,odd),-(1/sqrt(n)),-(1/sqrt(n+1))
),n=1..20])):
c := listplot ([seq((-1)^n*(1/sqrt(n)),n=1..20)]):
Middle zigzag is sequence; lim of top graph is lim sup; lim of bottom graph is lim inf.
display({a,b,c});

\[
\frac{(-1)^n}{\sqrt{n}}
\]