

```
(%i1) /* [wxMaxima batch file version 1] [ DO NOT EDIT BY HAND! ]*/
/* [ Created with wxMaxima version 14.12.1 ] */
```

```
/* [wxMaxima: input start ] */
N:20;
```

```
(%o1) 20
```

```
(%i2) x[0]:1;
x[1]:2;
for n:0 thru N do (
  x[n + 2]: 1/2*(x[n] + x[n+1])
);
```

```
(%o2) 1
```

```
(%o3) 2
```

```
(%o4) done
```

```
(%i5) for n:0 thru N do (
  display( float(x[n]) )
);
```

```
float(1) = 1.0float(2) = 2.0float( $\frac{3}{2}$ ) = 1.5float( $\frac{7}{4}$ ) = 1.75float( $\frac{13}{8}$ ) =
1.625float( $\frac{27}{16}$ ) = 1.6875float( $\frac{53}{32}$ ) = 1.65625float( $\frac{107}{64}$ ) = 1.671875float( $\frac{213}{128}$ ) =
1.6640625float( $\frac{427}{256}$ ) = 1.66796875float( $\frac{853}{512}$ ) = 1.666015625float( $\frac{1707}{1024}$ ) =
1.6669921875float( $\frac{3413}{2048}$ ) = 1.66650390625float( $\frac{6827}{4096}$ ) = 1.666748046875float( $\frac{13653}{8192}$ ) =
1.6666259765625float( $\frac{27307}{16384}$ ) = 1.66668701171875float( $\frac{54613}{32768}$ ) = 1.666656494140625float( $\frac{109227}{65536}$ ) =
1.666671752929688float( $\frac{218453}{131072}$ ) = 1.666664123535156float( $\frac{436907}{262144}$ ) = 1.666667938232422float( $\frac{873813}{524288}$ ) =
1.666666030883789
```

```
(%o5) done
```