

# while-loop

April 29, 2024

```
[1]: # the sum of two numbers that will result in even numbers between 1 and 1000  
a = 1  
while a <= 1000:  
    if a % 2 == 0:  
        print(a)  
    a = a + 1
```

2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
22  
24  
26  
28  
30  
32  
34  
36  
38  
40  
42  
44  
46  
48  
50  
52  
54  
56  
58  
60  
62

64  
66  
68  
70  
72  
74  
76  
78  
80  
82  
84  
86  
88  
90  
92  
94  
96  
98  
100  
102  
104  
106  
108  
110  
112  
114  
116  
118  
120  
122  
124  
126  
128  
130  
132  
134  
136  
138  
140  
142  
144  
146  
148  
150  
152  
154  
156  
158

160  
162  
164  
166  
168  
170  
172  
174  
176  
178  
180  
182  
184  
186  
188  
190  
192  
194  
196  
198  
200  
202  
204  
206  
208  
210  
212  
214  
216  
218  
220  
222  
224  
226  
228  
230  
232  
234  
236  
238  
240  
242  
244  
246  
248  
250  
252  
254

256  
258  
260  
262  
264  
266  
268  
270  
272  
274  
276  
278  
280  
282  
284  
286  
288  
290  
292  
294  
296  
298  
300  
302  
304  
306  
308  
310  
312  
314  
316  
318  
320  
322  
324  
326  
328  
330  
332  
334  
336  
338  
340  
342  
344  
346  
348  
350

352  
354  
356  
358  
360  
362  
364  
366  
368  
370  
372  
374  
376  
378  
380  
382  
384  
386  
388  
390  
392  
394  
396  
398  
400  
402  
404  
406  
408  
410  
412  
414  
416  
418  
420  
422  
424  
426  
428  
430  
432  
434  
436  
438  
440  
442  
444  
446

448  
450  
452  
454  
456  
458  
460  
462  
464  
466  
468  
470  
472  
474  
476  
478  
480  
482  
484  
486  
488  
490  
492  
494  
496  
498  
500  
502  
504  
506  
508  
510  
512  
514  
516  
518  
520  
522  
524  
526  
528  
530  
532  
534  
536  
538  
540  
542

544  
546  
548  
550  
552  
554  
556  
558  
560  
562  
564  
566  
568  
570  
572  
574  
576  
578  
580  
582  
584  
586  
588  
590  
592  
594  
596  
598  
600  
602  
604  
606  
608  
610  
612  
614  
616  
618  
620  
622  
624  
626  
628  
630  
632  
634  
636  
638

640  
642  
644  
646  
648  
650  
652  
654  
656  
658  
660  
662  
664  
666  
668  
670  
672  
674  
676  
678  
680  
682  
684  
686  
688  
690  
692  
694  
696  
698  
700  
702  
704  
706  
708  
710  
712  
714  
716  
718  
720  
722  
724  
726  
728  
730  
732  
734



736  
738  
740  
742  
744  
746  
748  
750  
752  
754  
756  
758  
760  
762  
764  
766  
768  
770  
772  
774  
776  
778  
780  
782  
784  
786  
788  
790  
792  
794  
796  
798  
800  
802  
804  
806  
808  
810  
812  
814  
816  
818  
820  
822  
824  
826  
828  
830

832  
834  
836  
838  
840  
842  
844  
846  
848  
850  
852  
854  
856  
858  
860  
862  
864  
866  
868  
870  
872  
874  
876  
878  
880  
882  
884  
886  
888  
890  
892  
894  
896  
898  
900  
902  
904  
906  
908  
910  
912  
914  
916  
918  
920  
922  
924  
926

928  
930  
932  
934  
936  
938  
940  
942  
944  
946  
948  
950  
952  
954  
956  
958  
960  
962  
964  
966  
968  
970  
972  
974  
976  
978  
980  
982  
984  
986  
988  
990  
992  
994  
996  
998  
1000

```
[2]: # program to take 10 numbers from the user and display its average.  
a = [19, 25, 74, 38, 99, 39, 18, 83, 10, 50]  
count = 0  
sum = 0  
while (count<len(a)):  
    sum = sum+a[count]  
    count = count+1  
print('Average of list','is',(sum/len(a)))
```

Average of list is 45.5

[3]: *# program to enter the numbers till the user enter ZERO and at the end it should display the count of positive and negative numbers entered.*

```
a = int(input("Enter a number 0 to quit): "))
while a != 0:
    a = int(input("Enter a number (0 to quite): "))
```

```
Enter a number 0 to quit): 2
Enter a number (0 to quite): 3
Enter a number (0 to quite): 4
Enter a number (0 to quite): 0
```

[1]: *# program to print all the characters in the string "PYTHON" using while loop.*

```
h = 'PYTHON'
for i in h:
    print(i)
```

```
P
Y
T
H
O
N
```

[5]: *# write a program to print following series till n terms 1,4,9,16,25...n terms*

```
n = 1
while n <= 20:
    if n == 1:
        print(n)
    else:
        print(n ** 2)
    n += 1
```

```
1
4
9
16
25
36
49
64
81
100
121
144
169
196
225
256
```

289  
324  
361  
400

```
[2]: # write a program to print only odd numbers from the given list using while
      ↪ loop. L = [23,45,32,35,56,31,77,90]
      L = [23,45,32,35,56,31,77,90]
      i = 0

      while(i < len(L)):
          if L[i] % 2 != 0:
              print(L[i], end=" ")
          i += 1
```

23 45 35 31 77

```
[6]: # write a program to convert binary to decimal
      bnum = int(input("Enter Binary number"))

      dnum = 0
      i = 1
      while bnum != 0:
          rem = bnum % 10
          dnum = dnum + (rem * i)
          i = i * 2
          bnum = int(bnum / 10)

      print("\nEquivalent Decimal Value = ", dnum)
```

Enter Binary number 11011

Equivalent Decimal Value = 27

```
[8]: # create a program to print diamond pattern using while loop
      number_of_values = int(input("Enter the number of rows :- "))
      def pattern(number_of_values):
          m = 1
          while m < number_of_values:

              print(" "*(number_of_values-m) + "* " * m)
              m+=1

          m = number_of_values
          while m >= 1:
              print(" "*(number_of_values-m) + "* " * m)
              m-=1
```

```
pattern(number_of_values)
```

Enter the number of rows :- 6

```
      *
     * *
    * * *
   * * * *
  * * * * *
 * * * * * *
* * * * * *
 * * * * *
  * * * *
   * * *
    * *
     *
```

[ ]: