

1. Write a program for fibonacci series using while loop

0 1 1 2 3 5 8 13 21 34

SAMPLE:

2 4 6 8

1 3 5 7

0

1

1+0

1

1+1

2

2+1

3

5

8

13

CODE:

```
a = 5
```

```
b = 7
```

```
print(a,b)
```

```
a,b = b,a
```

```
print(a,b)
```

5 7

7 5

CODE:

```
a,b = 0,1
```

```
i = 1
```

```
while(i<=10):
```

```
    print(a)
```

```
    s = a+b
```

```
    a = b
```

```
    b = s
```

```
    i = i+1
```

OUTPUT:

0

1

1

2

3

5

8

13

21

34

write a program to calculate sum of digits without functions using while loop

$$257 = 2+5+7 = 14$$

CODE:

```
num = int(input("enter a value: "))
```

```
sum = 0
```

```
while(num>0):
```

```
    digit = num%10
```

```
    sum = sum + digit
```

```
    num = num//10
```

```
print(sum)
```

OUTPUT:

enter a value: 1234

10

EXPLANATION:

num = 257

sum = 0

257>0

257%10=7

0+7=7

257//10=25

num = 25

sum = 7

25%10 = 5

7+5=12

25//10=2

```
num = 2
sum = 12
2>0
2%10=2
12+2=14
2//10=0
num = 0
sum = 14
0>0
print(sum)
```

1. **for** loop inside **for** loop

SYNTAX:

```
for var1 in range(): #outer loop
    for var2 in range(): #inner loop
        statements of inner loop
    statements of outer loop
```

EXAMPLE:

```
for i in range(1,11,1):
    for j in range(1,11,1):
        print(i*j,end="\t")
    print()
```

1 2 3 4 5 6 7 8 9 10

2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

```
for i in range(1,11,1):
```

```
    for j in range(1,6,1):
```

```
        print(i*j,end="\t")
```

```
    print()
```

1	2	3	4	5
2	4	6	8	10
3	6	9	12	15
4	8	12	16	20
5	10	15	20	25
6	12	18	24	30
7	14	21	28	35
8	16	24	32	40
9	18	27	36	45
10	20	30	40	50

```
for i in range(1,6,1):  
    for j in range(1,6,1):  
        if((i*j)%2==0):  
            print(i*j,end="\t")  
        else:  
            print(" ",end="\t")  
    print()
```

	2		4	
2	4	6	8	10
	6		12	
4	8	12	16	20
	10		20	