In [4]:

```
# perfect number
# 6 = 1 2 3 6 = 1+2+3=6

# 28 = 1 2 4 7 14 = 28
n = int(input())
f_sum=0
for i in range(1,n):
    if(n%i==0):
        f_sum=f_sum+i
print("factors sum= ",f_sum)
if(f_sum==n):
    print("Perfect Number")
else:
    print("Not a perfect number")
```

```
15
factors sum=  9
Not a perfect number
```

3 x 1 = 3 3 x 2 = 6 3 x 3 = 9 . . . 3 x 10 = 30

In [6]:

```
num = int(input())
for j in range(1,11):
    print(num,"x",j,"=",num*j)
```

. . .

while loop

-> It is used to execute a block of code repeatedly until a particular condition is satisfied

syntax for while loop

```
------------------
initialization
while(condition):
     statements
     increment/decrement
```

In [9]:

```
i = 1
while(i<=10):
    print(i,end=' ')
    i=i+3
```

```
1 4 7 10
```

In [10]:

```
i = 10
while(i>=1):
    print(i,end=' ')
    i=i-1
```

```
10 9 8 7 6 5 4 3 2 1
```

In [12]:

```
i = 1
t = 0
while(i<=50):
    t = t + i
    i = i + 1
print(t)
```

```
1275
```

In [21]:

```
# i/p: 457
# o/p: 754
n = int(input())
rev = 0
while(n>0): # n!=0 457>0(T)  45>0(T) 4>0(T) 0>0(F)
    r = n%10  # 457%10=7 45%10=5 4%10=4
    rev = rev*10+r # 0*10+7=7  7*10+5=75 75*10+4=754
    n = n//10  # 457//10=45 45//10=4   4//10=0
print(rev)
```

```
43693
39634
```

In [19]:

```
4//10
```

Out[19]:

```
0
```

In [15]:

```
5%2
```

Out[15]:

```
1
```

In [18]:

```
457//10
```

Out[18]:

```
45
```

In [ ]:

```
# i/p: 67921385
# o/p:  8 2 6
```

In [22]:

```
n = int(input())
while(n>0):
    r = n%10
    if(r%2==0):
        print(r, end = ' ')
    n = n//10
```

```
657869872
2 8 6 8 6
```

In [1]:

```
# i/p: 46927
# o/p:   16
num = int(input())
s = 0
while(num>0):
    r = num%10
    if(r%2==1):
        s = s+r
    num = num//10
print(s)
```

```
564766
12
```

In [4]:

```
# palindrom
# 121 - 121
# i/p: 457
# o/p: 754
n = int(input())
n1 = n
rev = 0
while(n>0): # n!=0 457>0(T)  45>0(T) 4>0(T) 0>0(F)
    r = n%10  # 457%10=7 45%10=5 4%10=4
    rev = rev*10+r # 0*10+7=7  7*10+5=75 75*10+4=754
    n = n//10  # 457//10=45 45//10=4   4//10=0
if(n1==rev):
    print("Palindrom")
else:
    print("Not palindrom")
```

. . .

Loop Control Statements

```
-> Loop control statements are used to
       change the flow of execution

  1.break :-  To stop the entire execution
  2.continue :- To stop the current iteration only
```

In [10]:

```python
# 1 to 10 numbers
# BREAK
for i in range(1,1000):
    if(i==6): # T
        break
    else:
        print(i,end=' ')
```

...

In [14]:

```python
# continue
for i in range(1,10):
    if(i==2 or i==5): # T
        continue
    else:
        print(i,end=' ')
```

```
1 3 4 6 7 8 9
```

In [15]:

```python
s = "python"
for i in s:
    if(i=='o'):
        break
    else:
        print(i,end= ' ')
```

```
p y t h
```

In [16]:

```python
s = "python"
for i in s:
    if(i=='t' or i=='o'):
        continue
    else:
        print(i,end= ' ')
```

```
p y h n
```

In [ ]:

```
1
```