Dealing with Digits - II

January 21, 2023

1 Dealing with Digits - II

[6]:
```
num = 12456
s = 0
for i in str(num):
    s += int(i)
print(s)
```

```
18
```

[7]:
```
12456%10
```

[7]: 6

[9]:
```
12456//10
```

[9]: 1245

[10]:
```
1245//10
```

[10]: 124

[11]:
```
124//10
```

[11]: 12

[12]:
```
12%10
```

[12]: 2

[13]:
```
12//10
```

[13]: 1

[14]:
```
1%10
```

[14]: 1

[15]:
```
1//10
```

[15]: 0

[16]:
```
n = int(input()) # 12478
d = n
while n > 0: # n = 0 > 0
    r = n % 10 # r = n % 10 --> 1247 % 10 --> 7
    print(r) # 8
    n = n // 10 # n = 12478 // 10 --> 0
```

```
12478
8
7
4
2
1
```

[18]:
```
# sum of the digits
n = int(input())
s = 0
while n > 0:
    r = n % 10
    s += r
    n = n // 10
print(s)
```

```
124
7
```

[23]:
```
n = int(input())
edc = odc = 0
while n > 0:
    r = n % 10
    if r % 2 == 0:
        edc += 1
    else:
        odc += 1
    n = n // 10
if edc == 0:
    print("Odd")
elif odc == 0:
    print("Even")
else:
    print("Mixed")
```

```
1234
Mixed
```

[27]:
```
n = int(input())
s = 0
```

```
while n > 0:
    r = n % 10
    s += r
    n = n // 10
    if n == 0 and s > 9:
        n = s
        s = 0
print(s)
```

```
199
1
```

2 Reverse a given number

[31]:
```
a = 1234
r = int(str(a)[::-1])
print(r)
```

```
4321
```

[34]:
```
n = int(input()) # 1234
x = 0
while n > 0: # 0 > 0
    r = n % 10 # r = 1
    x = x * 10 + r # x = 4321
    n = n // 10 # 0
print(x)
print(n)
```

```
1234
4321
0
```

3 Palindrome Number

[41]:
```
n = int(input()) # 1234
t = n
rev = 0
while n > 0: # 0 > 0
    r = n % 10 # r = 1
    rev = rev * 10 + r # x = 4321
    n = n // 10 # 0

if rev == t:
    print("Palindrome")
else:
    print("Not a palindrome")
```

```
12321
Palindrome
```

[47]:
```python
n = int(input())
sq = n * n
rev = 0
while n:
    r = n % 10
    rev = rev * 10 + r
    n = n // 10
x = rev * rev
y = 0
while x:
    r = x % 10
    y = y * 10 + r
    x = x // 10
if sq == y:
    print("True")
else:
    print("False")
```

```
9
False
```

[48]:
```python
for i in range(1, 10):
    print(i, end = ' ')
else:
    print('\nThe loop is terminated normally')
```

```
1 2 3 4 5 6 7 8 9
The loop is terminated normally
```

[49]:
```python
for i in range(1, 10):
    if i == 5:
        break
    print(i, end = ' ')
else:
    print('\nThe loop is terminated normally')
```

```
1 2 3 4
```

[ ]:
```python
# Escape the use of flag variables
# you can start from 2 sqrt(n)
# if find no factors at all you can say the number is prime
# if you found at leat one factor it's not prime
```

[ ]:
```
2 sqrt(17)
2 3 4
```

[53]:
```
n = int(input())
is_prime = True
for i in range(2, int(n**0.5) + 1):
    if n % i == 0:
        is_prime = False
        break
if is_prime and n != 1:
    print("prime")
else:
    print("not prime")
```

```
15
not prime
```

[55]:
```
n = int(input())
for i in range(2, int(n**0.5) + 1):
    if n % i == 0:
        print("not prime")
        break
else:
    print("prime")
```

```
15
not prime
```

[58]:
```
i = 1
while i <= 10:
    print(i, end = ' ')
    if i == 7:
        break
    i += 1
else:
    print("\nThe loop is over")
```

```
1 2 3 4 5 6 7
```