28/03/2025

Note: To remove a digit from RHS of a num → n//10

1. WAP to display the count of digits in a given num

```
n=int(input("Enter a number: "))
count=0
if n==0:
    count=1
elif n<0:
    n*=-1
while n>0:
    n=n//10
    count+=1
print("Total count the digits is:",count)
```

2. WAP for Arm-Strong numbers (I have used functions)

```
def digit_count(num):
    count=0
    while num>0:
        num=num//10
        count+=1
    return count

n=(int(input("Enter a number: ")))

def ASN(n):
    if n < 0:  # if the input is a -ve num
        n *= -1  # converting t to +ve num
    pow = digit_count(n)
    asn = 0
    num=n
    while (n > 0):
        base = n % 10
        asn += base ** pow
        n //= 10
    if num < 0:  # if original number was a negative number
        asn *= -1
    return num == asn

flag=ASN(n)
if flag:
    print(n, " is an ArmStrong number")
else:print(n, " is not an ArmStrong number")
```

3. WAP to get all the ASN b/w a customized range

```
def digit_count(num):
    count=0
    while num>0:
        num=num//10
        count+=1
    return count

start=(int(input("Enter the start number: ")))
end=(int(input("Enter the end number: ")))

if start>end:
    print("Invalid range")
else:
    print("Armstrong numbers: ")
    for i in range(start,end):
        n=i
        def ASN(n):
            if n < 0:  # if the input is a -ve num
                n *= -1  # converting t to +ve num
            pow = digit_count(n)
            asn = 0
            num = n
            while (n > 0):
                base = n % 10
                asn += base ** pow
                n //= 10
            if num < 0:  # if original number was a negative number
                asn *= -1
            return num == asn

        flag = ASN(n)
        if flag:
            print(n)
```

4. WAP to print all Armstrong numbers and non-Armstrong numbers in a given range

```
def digit_count(num):
    count=0
    while num>0:
        num=num//10
        count+=1
    return count


def ASN(n):
    if n < 0:  # if the input is a -ve num
        n *= -1  # converting t to +ve num
    pow = digit_count(n)
    asn = 0
    num = n
    while (n > 0):
        base = n % 10
        asn += base ** pow
        n //= 10
    if num < 0:  # if original number was a negative number
        asn *= -1
    return num == asn

start=(int(input("Enter the start number: ")))
end=(int(input("Enter the end number: ")))

if start>end:
    print("Invalid range")
else:
    print("Armstrong numbers: ")
    for i in range(start,end):
        flag = ASN(i)
        if flag:
            print(i)
    print("Non ArmStrong Numbers: ")
    for i in range(start,end):
        flag = ASN(i)
        if not flag:
            print(i)
```

5. WAP to print first n ASN

```
def digit_count(num):
    count=0
    while num>0:
        num=num//10
        count+=1
    return count


def ASN(n):
    if n < 0:  # if the input is a -ve num
        n *= -1  # converting t to +ve num
    pow = digit_count(n)
    asn = 0
    num = n
    while (n > 0):
        base = n % 10
        asn += base ** pow
        n //= 10
    if num < 0:  # if original number was a negative number
        asn *= -1
    return num == asn

num=(int(input("Enter the req. number: ")))
count=0
i=100
while count<num:
    flag=ASN(i)
    if flag:
        print(i)
        count += 1
    i+=1
```