Programming Assignment_9

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1. Write a Python program to check if the given number is a Disarium Number?

In [12]:
```
n=int(input("Enter Any Number: "))
m=n
a=[]
sum=0
while(m):
    a.append(m%10)
    m=m//10
for i in (range(len(a))):
    sum=sum+pow(a[i],len(a)-i)
if(n==sum):
    print("Disarium Number")
else:
    print("Not a Disarium Number")
```

```
Enter Any Number: 176
Not a Disarium Number
```

2. Write a Python program to print all disarium numbers between 1 to 100?

In [1]:
```
def check_disarium(n):
    m=n
    a=[]
    sum=0
    while(m):
        a.append(m%10)
        m=m//10
    for i in (range(len(a))):
        sum=sum+pow(a[i],len(a)-i)
    if(n==sum):
        return True
    else:
        return False
for i in range(100):
    if(check_disarium(i+1)):
        print(i+1)
```

```
1
2
3
4
5
6
7
8
9
89
```

3. Write a Python program to check if the given number is Happy Number?

In [3]:
```
def sum_square_digits(n):
    sum=0
    while(n):
        sum+=pow((n%10),2)
        n=n//10
    return sum
n=int(input("Enter any number: "))
m=n
while(m>9):
    m=sum_square_digits(m)
if(m==1):
    print("Happy Number")
else:
    print("Not a Happy Number")
```

```
Enter any number: 5
Not a Happy Number
```

4. Write a Python program to print all happy numbers between 1 and 100?

In [6]:
```
def sum_square_digits(n):
    sum=0
    while(n):
        sum+=pow((n%10),2)
        n=n//10
    return sum

def check_happy(n):
    m=n
    while(m>9):
        m=sum_square_digits(m)
    if(m==1):
        return 1
    else:
        return 0

for i in range(100):
    if(check_happy(i+1)==1):
        print(i+1)
```

```
1
10
13
19
23
28
31
32
44
49
68
70
79
82
86
91
94
97
100
```

5. Write a Python program to determine whether the given number is a Harshad Number?

In [9]:
```
def check_harshad(n):
    m=n
    sum=0
    while(m):
        sum+=(m%10)
        m=m//10
    if(n%sum==0):
        return True
    else:
        return False

n=int(input("Enter any number: "))
if(check_harshad(n)):
    print("Harshad Number")
else:
    print("Not a Harshad Number")
```

```
Enter any number: 152
Harshad Number
```

6. Write a Python program to print all pronic numbers between 1 and 100?

In [12]:
```
i=1
n=i*(i+1)
while(n<100):
    print(n)
    i+=1
    n=i*(i+1)
```

```
2
6
12
20
30
42
56
72
90
```