

Python Test – 2

Q1. Armstrong Numbers in a Range (10 Marks)

```
m = int(input("enter m: "))

n = int(input("enter n: "))

for i in range(m,n+1):

    temp = i

    res=0

    a=0

    sq=0

    for j in range(len(str(i))):

        a = i%10

        sq = a**len(str(temp))

        res+=sq

        i/=10

    if res==temp:

        print(temp)

    else:

        pass

print("-----")
```

Q2. Hollow Diamond Pattern (10 Marks)

```
n = 5

for i in range(1, n + 1):

    print(" " * (n - i), end="")

    for j in range(1, 2 * i):

        if j == 1 or j == 2 * i - 1:

            print("*", end="")

        else:

            print(" ", end="")

    print("")
```

```
print()  
for i in range(n - 1, 0, -1):  
    print(" " * (n - i), end="")  
    for j in range(1, 2 * i):  
        if j == 1 or j == 2 * i - 1:  
            print("*", end="")  
        else:  
            print(" ", end="")  
    print()  
print("-----")
```

Q3. Reverse Right-Angle Triangle Pattern (10 Marks)

```
n = 5  
for i in range(n,-1,-1):  
    for j in range(i):  
        print("*",end=" ")  
    print()
```

```
print("-----")
```

Q4. Harshad (Niven) Number (10 Marks)

```
print("harshad number ")  
n = int(input("enter n: "))  
sum = 0  
temp = n  
for _ in range(len(str(n))):  
    a=n%10  
    sum+=a  
    n/=10  
if temp%sum==0:  
    print(f"{temp} is harshad number")
```

```
else:
```

```
print(f"{temp} is not harshad")
```