

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()
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")
```