ANSWERS TO PRACTICE QUESTIONS – FOR LOOP

1.
```python
for i in range(50,1,-2):
    print(i)
```

2.
```python
m=int(input("Enter value of m:"))
n=int(input("Enter value of n:"))
for x in range(m,n+1):
    if x%3==0 and x%5==0:
        print(x)
```

3.
```python
n=int(input("Enter a number :"))
for x in range(1,11):
    print(n,"X",x,"=",n*x)
```

4 i.
```python
import math
n=int(input("Enter the value of n:"))
sum=0
for i in range(1,n+1):
    sum=sum+math.pow(i,2)
print("The sum is:",sum)
```

4 ii.
```python
import math
n=int(input("Enter the value of n:"))
sum=0
for i in range(1,n+1):
    sum=sum+math.pow(i,i+1)
print("The sum is:",sum)
```

4 iii.
```python
import math
n=int(input("Enter the value of n:"))
sum=0
for i in range(1,2*n,2):
    sum=sum+math.pow(i,i)
print("The sum is:",sum)
```

OR

```python
import math
n=int(input("Enter the value of n:"))
sum=0
for i in range(1,n+1):
    sum=sum+math.pow(2*i-1,2*i-1)
print("The sum is:",sum)
```

5
```python
n=int(input("Enter the value of n:"))
sum=0
for x in range(1,n+1):
    no=int(input("Enter a number:"))
    sum=sum+no
avg=sum/n
print("Sum=",sum,"\nAverage=",avg)
```

6
```python
m=int(input("Enter the value of m:"))
n=int(input("Enter the value of n:"))
print("The perfect numbers from",m,"to",n,":")
for no in range(m,n+1):
    sum=0
    for j in range(1,no//2+1):
        if no%j==0:
            sum=sum+j
    if sum==no:
        print(no)
```

7.
```python
n=int(input("Enter the value of n:"))
sum=0
for i in range(1,n+1):
    for j in range(1,2*i,2):
        sum=sum+j
print("The sum is ",sum)
```

8 i.
```python
import math
n=int(input("Enter the value of n:"))
x=float(input("Enter the value of x:"))
sum=1
for i in range(1,n):
    fact=1
    for j in range(1,(2*i)+1):
        fact=fact*j
    sum=sum+(math.pow(-1,i)*math.pow(x,2*i))/fact
print("The sum is ",sum)
```

8

ii.

```python
import math
n=int(input("Enter the value of n:"))
x=float(input("Enter the value of x:"))
sum=0
fact=1
for i in range(1,n+1):
    fact=fact*i
    sum=sum+(math.pow(-1,i+1)*math.pow(x,2*i-1))/fact
print("The sum is ",sum)
```

9 i.

```python
for i in range(4,0,-1):
    print(" "*(20-i),end="")
    for j in range(2*i-1,0,-2):
        print(j,end=" ")
    print()
```

9

ii.

```python
for i in range(4,0,-1):
    print(" "*(20-i),end="")
    for j in range(1,i+1):
        print(i,end=" ")
    print()
```

9

iii.

```python
for i in range(1,5):
    print(" "*(20+i),end="")
    for j in range(i,5):
        print(j,end=" ")
    print()
```