1. Print numbers from 1 to 10 using a for loop.

Program:

```
for i in range(1, 11):
print(i)
```

Output:

```
1
2
3
4
5
6
7
8
9
10
```

2. Print all even numbers from 1 to 20.

Program:

```
for i in range(1, 21):
if i % 2 == 0:
print(i)
```

Output:

2

4

6

8

10

12

14

16

18

20

3. Print each character of the string: 'Python'.

Program:

```
s = 'Python'
for char in s:
print(char)
```

Output:

```
P
y
t
h
o
n
```

4. Using a while loop, print numbers from 5 down to 1.

Program:

```
i = 5
while i >= 1:
print(i)
i -= 1
```

Output:

```
5
4
3
2
1
```

5. Write a loop to find the sum of numbers from 1 to 50.

Program:

```
sum_val = 0
for i in range(1, 51):
sum_val += i
print(sum_val)
```

Output:

1275

6. Print the multiplication table of 5 (from 5x1 to 5x10).

Program:

```
for i in range(1, 11):
print(f"5 x {i} = {5 * i}")
```

Output:

```
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

7. Find how many vowels are present in the string 'Programming'.

Program:

```
s = 'Programming'
vowels = "aeiouAEIOU"
count = 0
for char in s:
if char in vowels:
count += 1
print(count)
```

Output:

```
4
```

8. Use a loop to reverse the string 'PythonLoops'.

Program:

```
s = 'PythonLoops'
reversed_s = ""
for char in s:
reversed_s = char + reversed_s
print(reversed_s)
```

9. Print numbers from 1-10, skip 5

Step 1: Iterate and use continue

```
for i in range(1, 11):
if i == 5:
continue
print(i)
```

Answer:

1
2
3
4
6
7
8
9
10

10. Print numbers from 1-20, stop at 13

Step 1: Iterate and use break

```
for i in range(1, 21):
if i == 13:
break
print(i)
```

Answer:

1
2
3
4
5
6
7
8
9
10
11
12

11. Check if a number is prime

Step 1: Define the number and check primality

```
num = 13 # Example number
is_prime = True
if num < 2:
is_prime = False
else:
for i in range(2, int(num**0.5) + 1):
if num % i == 0:
is_prime = False
break
```

Step 2: Print the result

```
if is_prime:
print(f"{num} is prime")
else:
print(f"{num} is not prime")
```

Answer:

13 is prime

12. Count character occurrences in 'mississippi'

Step 1: Define the string and count

```
s = 'mississippi'
counts = {}
for char in s:
if char in counts:
counts[char] += 1
else:
counts[char] = 1
```

Step 2: Print the counts

```
print(counts)
```

Answer:

{'m': 1, 'i': 4, 's': 4, 'p': 2}

14. Find the largest digit in the number 5847361

Step 1: Define the number and find the largest digit

```
num_str = "5847361"
largest_digit = 0
for digit in num_str:
if int(digit) > largest_digit:
largest_digit = int(digit)
```

Step 2: Print the largest digit

```
print(largest_digit)
```

Answer:

8

```
rows = 5
for i in range(1, rows + 1):
    for j in range(i):
        print('*', end='')
    print()
```

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```
rows = 5
for i in range(rows, 0, -1):
    for j in range(i):
        print('*', end='')
    print()
```

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