Python Loop Programs

1. Print numbers from 1 to 10

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

2. Print each character in a string

```python
word = "Python" for ch in word: print(ch)
```

3. Print elements of a list

```python
fruits = ["apple", "banana", "cherry"] for fruit in fruits: print(fruit)
```

4. Multiplication Table of 5

```python
num = 5 for i in range(1, 11): print(num, "x", i, "=", num * i)
```

5. Print numbers using while loop

```python
i = 1 while i <= 5: print(i) i += 1
```

6. Sum of numbers from 1 to N

```python
n = int(input("Enter a number: ")) i = 1 total = 0 while i <= n: total += i i += 1
print("Sum is:", total)
```

7. Reverse a number

```python
num = int(input("Enter a number: ")) rev = 0 while num > 0: digit = num % 10 rev =
rev * 10 + digit num //= 10 print("Reversed number:", rev)
```

8. Print star pattern

```python
for i in range(1, 6): for j in range(i): print("*", end=" ") print()
```

9. Factorial of a number

```python
num = int(input("Enter a number: ")) fact = 1 for i in range(1, num + 1): fact *= i
print("Factorial:", fact)
```

10. Largest number in a list

```python
numbers = [12, 45, 7, 89, 23] largest = numbers[0] for n in numbers: if n > largest:
largest = n print("Largest number is:", largest)
```

11. Even numbers from 1 to 20

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

12. Fibonacci series

```
n = int(input("Enter how many terms: ")) a, b = 0, 1 for i in range(n): print(a,
end=" ") a, b = b, a + b
```

13. Guess the number game

```
secret = 7 guess = 0 while guess != secret: guess = int(input("Guess the number
(1-10): ")) print("Correct! The number was", secret)
```

14. Palindrome check (number)

```
num = int(input("Enter a number: ")) temp = num rev = 0 while num > 0: digit = num %
10 rev = rev * 10 + digit num //= 10 if temp == rev: print("Palindrome") else:
print("Not Palindrome")
```

15. Prime number check

```
num = int(input("Enter a number: ")) i = 2 is_prime = True while i <= num // 2: if
num % i == 0: is_prime = False break i += 1 if is_prime and num > 1: print("Prime
number") else: print("Not Prime")
```

16. Right triangle numbers

```
for i in range(1, 6): for j in range(1, i + 1): print(j, end=" ") print()
```

17. Inverted star pattern

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

18. Multiplication table (1 to 5)

```
for i in range(1, 6): for j in range(1, 6): print(i * j, end="\t") print()
```

19. Sum of digits

```
num = int(input("Enter a number: ")) s = 0 while num > 0: s += num % 10 num //= 10
print("Sum of digits:", s)
```

20. Armstrong number check

```
num = int(input("Enter a number: ")) temp = num s = 0 while num > 0: digit = num % 10
s += digit ** 3 num //= 10 if temp == s: print("Armstrong number") else: print("Not
Armstrong number")
```