Task1:

```python
# 1. Calculate the sum, difference, product, and quotient of two numbers.
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
print("Sum =", a + b)
print("Difference =", a - b)
print("Product =", a * b)
print("Quotient =", a / b)


# 2. Find the remainder of a division.
a = int(input("Enter dividend: "))
b = int(input("Enter divisor: "))
print("Remainder =", a % b)


# 3. Calculate simple interest.
p = float(input("Enter principal: "))
r = float(input("Enter rate of interest: "))
t = float(input("Enter time: "))
si = (p * r * t) / 100
print("Simple Interest =", si)


# 4. Convert minutes to hours and minutes.
minutes = int(input("Enter minutes: "))
hours = minutes // 60
remaining_minutes = minutes % 60
print("Hours =", hours)
print("Minutes =", remaining_minutes)


# 5. Find the square and cube of a number.
n = int(input("Enter a number: "))
print("Square =", n ** 2)
print("Cube =", n ** 3)
```

```python
# 6. Check if a student has passed (marks ≥ 40).

marks = int(input("Enter marks: "))

if marks >= 40:

    print("Student has passed")

else:

    print("Student has failed")


# 7. Compare two ages and print who is older.

age1 = int(input("Enter first age: "))

age2 = int(input("Enter second age: "))

if age1 > age2:

    print("First person is older")

elif age2 > age1:

    print("Second person is older")

else:

    print("Both are of the same age")


# 8. Check if a number is greater than or equal to 100.

num = int(input("Enter a number: "))

if num >= 100:

    print("Number is greater than or equal to 100")

else:

    print("Number is less than 100")


# 9. Check if a number is positive OR zero.

num = int(input("Enter a number: "))

if num > 0 or num == 0:

    print("Number is positive or zero")

else:

    print("Number is negative")
```

10.Check if a number is NOT negative.

```python
num = int(input("Enter a number: "))


if not(num < 0):
    print("Number is not negative")
else:
    print("Number is negative")
```

Output:

```
PS D:\Internship\Day7> python task1.py
Enter first number: 10
Enter second number: 2
Sum = 12
Difference = 8
Product = 20
Quotient = 5.0
Enter dividend: 7
Enter divisor: 2
Remainder = 1
Enter principal: 1000
Enter rate of interest: 10
Enter time: 60
Simple Interest = 6000.0
Enter minutes: 180
Hours = 3
Minutes = 0
Enter a number: 4
Square = 16
Cube = 64
Enter marks: 60
Student has passed
Enter first age: 21
Enter second age: 18
First person is older
Enter a number: 120
Number is greater than or equal to 100
Enter a number: 12
Number is positive or zero
Enter a number: 2
Number is not negative
```

Task2:

```python
# 1. Find the smallest of two numbers.
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
if a < b:
    print("Smallest number is", a)
else:
    print("Smallest number is", b)


# 2. Check if a person is eligible to vote.
age = int(input("Enter age: "))
if age >= 18:
    print("Eligible to vote")
else:
    print("Not eligible to vote")


# 3. Check if a number is even or odd.
num = int(input("Enter a number: "))
if num % 2 == 0:
    print("Even number")
else:
    print("Odd number")


# 4. Grade a student based on marks.
marks = int(input("Enter marks: "))
if marks >= 90:
    print("Grade A")
elif marks >= 75:
    print("Grade B")
elif marks >= 50:
    print("Grade C")
else:
    print("Fail")
```

```python
# 1. Print numbers from 1 to 10.
for i in range(1, 11):
    print(i)


# 2. Print even numbers from 1 to 50.
for i in range(1, 51):
    if i % 2 == 0:
        print(i)


# 3. Print multiplication table of a number.
num = int(input("Enter a number: "))
for i in range(1, 11):
    print(num, "x", i, "=", num * i)


# 4. Print characters of a string one by one.
text = input("Enter a string: ")
for ch in text:
    print(ch)


# 5. Calculate the sum of first N numbers.
n = int(input("Enter N: "))
sum = 0
for i in range(1, n + 1):
    sum = sum + i
print("Sum =", sum)


# 6. Count vowels in a string.
text = input("Enter a string: ")
count = 0
for ch in text:
    if ch in "aeiouAEIOU":
        count += 1
print("Number of vowels =", count)
```

Output:

```
PS D:\Internship\Day7> python task2.py
Enter first number: 50
Enter second number: 75
Smallest number is 50
Enter age: 21
Eligible to vote
Enter a number: 26
Even number
Enter marks: 85
Grade B
1
2
3
4
5
6
7
8
9
10
```

```
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
Enter a number: 5
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
```

```
Enter a string: Hello World
H
e
l
l
o

W
o
r
l
d
```

```
Enter N: 5
Sum = 15
Enter a string: Hello World
Number of vowels = 3
```

Task3:

1. Print numbers from 10 to 1.

i = 10

while i >= 1:

   print(i)

   i = i - 1

2. Sum of digits of a number.

num = int(input("Enter a number: "))

sum = 0

while num > 0:

   digit = num % 10

   sum = sum + digit

   num = num // 10

print("Sum of digits =", sum)

3. Count number of digits.

num = int(input("Enter a number: "))

count = 0

while num > 0:

   count = count + 1

   num = num // 10

print("Number of digits =", count)

Output:

```
PS D:\Internship\Day7> python task3.py
10
9
8
7
6
5
4
3
2
1
Enter a number: 123
Sum of digits = 6
Enter a number: 4567
Number of digits = 4
```