Q.1) Write a Python function to check whether a string is a pangram or not. Note : Pangrams are words or sentences containing every letter of the alphabet at least once. For example : "The quick brown fox jumps over the lazy dog"

Code:

```
letter="abcdefghijklmnopqrstuvwxyz"
string="The quick brown fox jumps over the lazy dog"
for i in letter:
  if i not in string:
    print(" not pangram")
    break
else:
  print("pangram")
```

```
string is pangram
```

Q.2) Write a Python program to calculate the sum of the digits in an integer.

Code:

```
num=12345
sum=0
while num>0:
  sum=sum+num%10
  num=num//10
print("Sum of numbers",sum)

sum1=0
num1=98765
for i in str(num1):
  sum1=sum1+int(i)
print("Sum of numbers",sum1)
```

```
Sum of numbers 15
Sum of numbers 35
```

Q.3) Write a Python program to sort three integers without using conditional statements and loops. [u can use built in functions for this]

Code:

```
list1=[3,1,2]
list1.sort()
print("Sorted List",list1)
```

```
Sorted List [1, 2, 3]
```

Q.4) Write a Python function to check whether a number is perfect or not. According to Wikipedia : In number theory, a perfect number is a positive integer that is equal to the sum of its proper positive divisors, that is, the sum of its positive divisors excluding the number itself (also known as its aliquot sum). Equivalently, a perfect number is a number that is half the sum of all of its positive divisors (including itself). Example : The first perfect number is 6, because 1, 2, and 3 are its proper positive divisors, and 1 + 2 + 3 = 6. Equivalently, the number 6 is equal to half the sum of all its positive divisors: (1 + 2 + 3 + 6) / 2 = 6. The next perfect number is 28 = 1 + 2 + 4 + 7 + 14. This is followed by the perfect numbers 496 and 8128.

Code:

```
def is_perfect_number(number):
    if number <= 0:
        return False  # Perfect numbers are positive integers

    sum_of_divisors = 0
    for i in range(1, number): # Iterate from 1 up to (but not including) the number
        if number % i == 0:
            sum_of_divisors += i

    return sum_of_divisors == number

print("6 is perfect number or not?",is_perfect_number(6))
print("15 is perfect number or not?",is_perfect_number(15))
```

```
6 is perfect number or not? True
15 is perfect number or not? False
```