```
Enter the first number: 14
Enter the second number: 2
Enter the third number: 9
Largest: largest 14.0
Smallest: smallest 2.0
```

#4) Check whether a given number is divisible by 10 or not.

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

```
if num % 10 == 0:
    print(f"{num} is divisible by 10.")
else:
    print(f"{num} is not divisible by 10.")
```

```
Enter a number: 20
20 is divisible by 10.
```

```
#5) Accept age of a person. If age is less than 18, print minor otherwise Major.

age = int(input("Enter the age: "))

if age < 18:
    print("Minor")
else:
    print("Major")
```

```
Enter the age: 14
Minor
```

```
#6)Accept a number from the user. And print number of digits in it.

num = input("Enter a number: ")

# Check if it's a valid number (optional)
if num.isdigit() or (num[0] == '-' and num[1:].isdigit()):
    # Remove minus sign if present
    if num[0] == '-':
        num = num[1:]
    print(f"Number of digits: {len(num)}")
else:
    print("Invalid input! Please enter a valid number.")
```

```
Enter a number: 14524145
Number of digits: 8
```

```
#7)Accept a year value from the user. Check whether it is a leap year or not.

year = int(input("Enter a year: "))

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print(f"{year} is a leap year.")
else:
    print(f"{year} is not a leap year.")
```

```
Enter a year: 2020
2020 is a leap year.
```

```
#8) Check whether a triangle is valid or not, when the three angles of the triangle are
```

```
angle1 = float(input("Enter first angle: "))
angle2 = float(input("Enter second angle: "))
angle3 = float(input("Enter third angle: "))


total = angle1 + angle2 + angle3

if total == 180:
    print("The triangle is valid.")
else:
    print("The triangle is not valid.")
```

```
Enter first angle: 60
Enter second angle: 60
Enter third angle: 60
The triangle is valid.
```

```
#9)| Print absolute value of a given number.
num = float(input("Enter a number: "))


if num < 0:
    abs_value = -num
else:
    abs_value = num


print(f"Absolute value: {abs_value}")
```

```
Enter a number: -89
Absolute value: 89.0
```

```
#10) Given the length and breadth of a rectangle, write a program to find whether the ar

length = float(input("Enter the length of the rectangle: "))
breadth = float(input("Enter the breadth of the rectangle: "))


area = length * breadth
perimeter = 2 * (length + breadth)


if area > perimeter:
    print("Area is greater than perimeter.")
elif area == perimeter:
    print("Area is equal to perimeter.")
else:
    print("Perimeter is greater than area.")
```

```
Enter the length of the rectangle: 4
Enter the breadth of the rectangle: 2
Perimeter is greater than area.
```

```
#11) Given three points (x1,y1), (x2,y2) and (x3,y3), check if all the three points fall

x1 = float(input("Enter x1: "))
y1 = float(input("Enter y1: "))

x2 = float(input("Enter x2: "))
y2 = float(input("Enter y2: "))

x3 = float(input("Enter x3: "))
y3 = float(input("Enter y3: "))


if (y2 - y1) * (x3 - x2) == (y3 - y2) * (x2 - x1):
    print("The three points lie on a straight line.")
else:
    print("The three points do NOT lie on a straight line.")
```

```
Enter x1: 4
Enter y1: 2
Enter x2: 4
Enter y2: 2
Enter x3: 4
Enter y3: 2
The three points lie on a straight line.
```

```
#12) Given the coordinates (x,y) of center of a circle and its radius, determine whether
import math
x = float(input("Enter x-coordinate of the center: "))
y = float(input("Enter y-coordinate of the center: "))
r = float(input("Enter radius of the circle: "))

a = float(input("Enter x-coordinate of the point: "))
b = float(input("Enter y-coordinate of the point: "))


distance = math.sqrt(pow(a - x, 2) + pow(b - y, 2))


if distance < r:
    print("The point is inside the circle.")
elif distance == r:
    print("The point is on the circle.")
else:
    print("The point is outside the circle.")
```

```
Enter x-coordinate of the center: 12
Enter y-coordinate of the center: 12
Enter radius of the circle: 5
Enter x-coordinate of the point: 2
Enter y-coordinate of the point: 2
The point is outside the circle.
```

```
#13) Convert number 0 to 19 to its equivalent words. E.g. 0 → zero, 19→ nineteen.
# Program to convert number (0 to 19) into words (without functions)


num = int(input("Enter a number between 0 and 19: "))
```

```
if num == 0:
    print("zero")
elif num == 1:
    print("one")
elif num == 2:
    print("two")
elif num == 3:
    print("three")
elif num == 4:
    print("four")
elif num == 5:
    print("five")
elif num == 6:
    print("six")
elif num == 7:
    print("seven")
elif num == 8:
    print("eight")
elif num == 9:
    print("nine")
elif num == 10:
    print("ten")
elif num == 11:
    print("eleven")
elif num == 12:
    print("twelve")
elif num == 13:
    print("thirteen")
elif num == 14:
    print("fourteen")
elif num == 15:
    print("fifteen")
elif num == 16:
    print("sixteen")
elif num == 17:
    print("seventeen")
elif num == 18:
    print("eighteen")
elif num == 19:
    print("nineteen")
else:
    print("Number out of range. Please enter a number between 0 and 19.")
```

```
Enter a number between 0 and 19: 5
five
```

```
#14 Accept marks of three subjects. Print total and average
#along with whether a candidate has passed or fail.
#If student secures <= 39 marks in any subject, consider him as fail.
#Also assigned a subject wise grade based on the following table:


marks = []
grades = []
total = 0
```

```
fail = False
absent = False

for i in range(1, 4):
    m = input(f"Enter marks for Subject {i} (or 'A' if absent): ")

    if m == "A" or m == "a":
        grades.append("NA")
        absent = True
    else:
        score = float(m)
        marks.append(score)
        total += score


        if score <= 39:
            fail = True


        if 0 <= score <= 39:
            grades.append("F")
        elif 40 <= score <= 44:
            grades.append("P")
        elif 45 <= score <= 49:
            grades.append("C")
        elif 50 <= score <= 54:
            grades.append("B")
        elif 55 <= score <= 59:
            grades.append("B+")
        elif 60 <= score <= 69:
            grades.append("A")
        elif 70 <= score <= 79:
            grades.append("A+")
        elif 80 <= score <= 100:
            grades.append("O")
        else:
            grades.append("Invalid")

print("\n------ Result ------")
if absent:
    print("Result: Incomplete (Absent in at least one subject)")
else:
    average = total / 3
    print(f"Total Marks: {total}")
    print(f"Average Marks: {average:.2f}")
    print("Result:", "Fail" if fail else "Pass")

print("\n--- Grades ---")
for i in range(3):
    print(f"Subject {i+1}: Grade - {grades[i]}")
```

```
Enter marks for Subject 1 (or 'A' if absent): 50
Enter marks for Subject 2 (or 'A' if absent): 57
Enter marks for Subject 3 (or 'A' if absent): 56

------ Result ------
Total Marks: 163.0
Average Marks: 54.33
```

```
Result: Pass

--- Grades ---
Subject 1: Grade - B
Subject 2: Grade - B+
Subject 3: Grade - B+
```