

## Lab assessment

- 1) Write a Python program that instructs the user to provide 10 numbers and sorts them in ascending and descending order.

Solution,

```
Digi > sort.py > ...
1  numbers = []
2
3  # Take 10 numbers from the user
4  for i in range(10):
5      n = int(input("Enter a number: "))
6      numbers.append(n)
7
8  # Ascending order
9  numbers.sort()
10 print("Ascending order:", numbers)
11
12 # Descending order
13 numbers.reverse()
14 print("Descending order:", numbers)
15
```

### Output

```
/usr/local/bin/python3 /Users/kcabis/Desktop/Python/Digi/sort.py
(base) kcabis@Abiskars-MacBook-Air Python % /usr/local/bin/python3 /Users/kcabis/Desktop/Python/Digi/sort.py
Enter a number: 12
Enter a number: 34
Enter a number: 45
Enter a number: 1
Enter a number: 2
Enter a number: 344
Enter a number: 56
Enter a number: 32
Enter a number: 23
Enter a number: 23
Ascending order: [1, 2, 12, 23, 23, 32, 34, 45, 56, 344]
Descending order: [344, 56, 45, 34, 32, 23, 23, 12, 2, 1]
(base) kcabis@Abiskars-MacBook-Air Python %
```

- 2) Write a Python program that asks the user to enter a number and uses a while loop to display the multiplication table of that number up to 10. Show the result in a clear format (e.g.,  $5 \times 1 = 5$ ).

Solution

```
Digi > ⌘ mul.py > ...
1 num = int(input("Enter a number: "))
2 i = 1
3 while i <= 10:
4     print(num, "x", i, "=", num * i)
5     i = i + 1
```

Output

```
(base) kcabis@Abiskars-MacBook-Air Python % /usr/local/bin/python3 /Users/kcabis/Desktop/Python/Digi/mul.py
Enter a number: 7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
(base) kcabis@Abiskars-MacBook-Air Python %
```

- 3) Write a Python program that asks the user to enter their name and age and uses an if-else statement to check whether the user is eligible to vote and print a suitable message based on the result.

Solution,

```
Digi > ⌘ conditional.py > ...
1  name = input("Enter your name: ")
2  age = int(input("Enter your age: "))
3
4  if age >= 18:
5      print(name, ", you are eligible to vote.")
6  else:
7      print(name, ", you are not eligible to vote.")
8
```

Output

```
● (base) kcabis@Abiskars-MacBook-Air Python % /usr/local/bin/python3 /Users/kcabis/Desktop/Python/Digi/conditional.py
Enter your name: Balendra sah
Enter your age: 35
Balendra sah , you are eligible to vote.
❖ (base) kcabis@Abiskars-MacBook-Air Python %
```