

University of Mohamed Kheider -Biskra

Faculty of Science and Technology
Common Core in Science and Technology
Course : **Computer Science 2**



Academic Year: **2024/2025**
Level: **1st Year**
Duration: **3 sessions**

PW Series No. 7: Functions and Procedures: **Solution**

Exercise 1:

```
1 def sumNumbers(x, y):  
2     z = x+y  
3     print("the sum is:", z)  
4  
5 sumNumbers(5,6)  
6 #or  
7 a = int(input("enter the first number"))  
8 b = int(input("enter the second number"))  
9  
10 sumNumbers(a,b)
```

1.

```
1 def sumNumbers(x, y):  
2     z = x+y  
3     return z  
4  
5 r = sumNumbers(5,6)  
6 print("the sum is:", r)
```

2.

Exercise 2:

```
1 def OddEven(x):  
2     if x % 2 == 0:  
3         return True  
4     else:  
5         return False  
6  
7 a = int(input("enter a number"))  
8 result = OddEven(a)  
9 if result == True:  
10     print("the number is even")  
11 else:  
12     print("the number is odd")
```

Exercise 3:

```
1 ▾ def search(A, a):
2     exist = False
3 ▾     for i in range(len(A)):
4 ▾         |     if A[i] == a:
5         |         |     exist = True
6 ▾     if exist == True:
7         |     print("the number exist")
8 ▾     else:
9         |     print("the number doesn't exist")
10
11 T = [11, 13, 15, 14, 5, 11]
12 number = int(input("enter a number that you want to search"))
13 search(T, number)
```

Exercise 4:

```
def Prime_Number (a):
```

```
    prime = True
```

```
    for i in range(2, a):
```

```
        if a % i==0:
```

```
            prime = False
```

```
    return prime
```

```
Matrix = []
```

```
n = 2
```

```
m = 4
```

```
for i in range(n):
```

```
    row = []
```

```
    for j in range(m):
```

```
        num = int(input("enter a number"))
```

```
        row.append(num)
```

```
    Matrix.append(row)
```

```
print(Matrix)
```

```
count = 0
```

```
for i in range(n):
```

```
    for j in range(m):
```

```
if Prime_Number(Matrix[i][j]) == True:
```

```
    count = count + 1
```

```
print("the total number of prime numbers in the matrix is:", count)
```

Exercise 5:

```
1 def fill1D(T, n):  
2     for i in range(n):  
3         num = int(input("enter a number"))  
4         T.append(num)  
5 A = []  
6 fill1D(A, 4)  
1. 7 print(A)
```

```
1 def fill2D(M, n, m):  
2     for i in range(n):  
3         row = []  
4         for j in range(m):  
5             num = int(input("enter a number"))  
6             row.append(num)  
7         M.append(row)  
8 matrix = []  
9 fill2D(matrix, 3,2)  
2. 10 print(matrix)
```

Exercise 6:

Answers:

1. The expected output is:
 - The array after modification will be: [1,2,3,4]
 - The integer after modification will be: 10
2. It behaves like pass by reference, where the list was changed.
3. It behaves like pass by value, where the integer wasn't changed.
4. When we pass list (1D array), we are passing the original list where any change done will occur, but in the case of the integer we are just passing a copy of it.