

```
zek > homework3 > homework3.py > subtract

1  # File: homework3.py
2
3  #3.1
4  def say_goodbye(name):
5      print("Goodbye,",name)
6  # say_goodbye("Nebuchadnezzar")
7
8  #3.2
9  def area_of_circle(radius):
10     print((radius ** 2) * 3.14) #area of circle is r^2 * pi
11 # area_of_circle(5)
12
13 #4.1
14 def subtract(a, b):
15     return a - b
16
17 def multiply(a, b):
18     return a * b
19
20 def divide(a, b):
21     return a / b # There will be an error if b = 0
22
23 #5.1
24 readings = [15, 14, 17, 20, 23, 28, 20]
25 def what_to_wear(readings):
26     return (min(readings), max(readings))
27 # print(what_to_wear(readings))
28
29 #5.2
30 def is_weekend(day_number):
31     if day_number == 6 or day_number == 7:
32         return True
33     else:
34         return False
35
36 #5.3
37 def fuel_efficiency(distance, fuel):
38     return distance / fuel
39
40 #5.4
41 def encrypt(n):
42     last digit = n % 10
```

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41 def encrypt(n):
42     last_digit = n % 10
43     other_digits = n // 10
44     num_digits = len(str(other_digits))
45
46     encrypted = last_digit * (10 ** num_digits) + other_digits
47     return encrypted
48 # print(encrypt(12345))
49
50 #6.1
51 def power(x, y):
52     result = 1
53
54     for n in range(abs(y)):
55         result *= x
56
57     if y < 0:
58         return 1 / result
59     else:
60         return result
61 # print(power(2,3))
62
63 #6.2.1
64 def find_min_for(nums):
65     min_num = nums[0]
66     for num in nums:
67         if num < min_num:
68             min_num = num
69     return min_num
70
71 def find_max_for(nums):
72     max_num = nums[0]
73     for num in nums:
74         if num > max_num:
75             max_num = num
76     return max_num
77
78 #6.2.2
79 def find_min_while(nums):
80     min_num = nums[0]
81     i = 1
82     while i < len(nums):
83         if nums[i] < min_num:

```

Python +   ... |  

homework3.py

The result of `Oski Stole Your Power (5.1)` with  $x = 2$  and  $y = 3$  is 8.

```

(base) zekyang@wifi-10-40-163-132 python_decal_fa25 %

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zek > homework3 >  homework3.py > ...
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```

1 # Import modules and packages
2 import pandas as pd
3 import numpy as np
4
5 # Create a DataFrame with 10 rows and 5 columns
6 data = pd.DataFrame({
7     'A': [1, 2, 3, 4, 5, 6, 7, 8, 9, 10],
8     'B': [10, 20, 30, 40, 50, 60, 70, 80, 90, 100],
9     'C': [0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0],
10    'D': ['A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J'],
11    'E': [100, 200, 300, 400, 500, 600, 700, 800, 900, 1000]
12 })
13
14 # Print the first 5 rows
15 print(data.head())
16
17 # Print the last 5 rows
18 print(data.tail())
19
20 # Print the shape of the DataFrame
21 print(data.shape)
22
23 # Print the data types of the columns
24 print(data.dtypes)
25
26 # Print the sum of column 'A'
27 print(data['A'].sum())
28
29 # Print the mean of column 'B'
30 print(data['B'].mean())
31
32 # Print the standard deviation of column 'C'
33 print(data['C'].std())
34
35 # Print the unique values of column 'D'
36 print(data['D'].unique())
37
38 # Print the count of each value in column 'D'
39 print(data['D'].value_counts())
40
41 # Print the correlation matrix
42 print(data.corr())
43
44 # Print the first 10 rows of the DataFrame
45 print(data[:10])
46
47 # Print the last 10 rows of the DataFrame
48 print(data[-10:])
49
50 # Print the DataFrame with columns 'A' and 'B'
51 print(data[['A', 'B']])
52
53 # Print the DataFrame with columns 'C' and 'D'
54 print(data[['C', 'D']])
55
56 # Print the DataFrame with columns 'E' and 'D'
57 print(data[['E', 'D']])
58
59 # Print the DataFrame with columns 'A', 'B', and 'C'
60 print(data[['A', 'B', 'C']])
61
62 # Print the DataFrame with columns 'D', 'E', and 'A'
63 print(data[['D', 'E', 'A']])
64
65 # Print the DataFrame with columns 'B', 'C', and 'D'
66 print(data[['B', 'C', 'D']])
67
68 # Print the DataFrame with columns 'E', 'D', and 'A'
69 print(data[['E', 'D', 'A']])
70
71 # Print the DataFrame with columns 'A', 'B', 'C', 'D', and 'E'
72 print(data)
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335 # Print the DataFrame with columns 'A', 'B', 'C', 'D', and 'E'
336 print(data)
337
338 # Print the DataFrame with columns 'A', 'B', 'C', '
```

 Python      |  

homework3.py

The result of Oski Stole Your Power (5.1) with  $x = 2$  and  $y = 3$  is 8.

```
○ (base) zekyang@wifi-10-40-163-132 python decal fa25 %
```