RAJALAKSHMI ENGINEERING COLLEGE

RAJALAKSHMI NAGAR, THANDALAM – 602 105

RAJALAKSHMI
ENGINEERING COLLEGE

CS23221
PYTHON PROGRAMMING LAB

Laboratory Observation Note Book

NAME: JANARTHANAN B

YEAR/BRANCH/SECTION: Ist YEAR /CSE/B

REGISTER NO: 230701125

SEMESTER: II

8.3		Winner Of Election		
8.4		Student Record		
8.5		Scramble Score		
Functions				
9.1		Abundant Number		
9.2		Automorphic number or not		
9.3		Check Product of Digits		
9.4		Christmas Discount		
9.5		Coin Change		
9.6		Difference Sum		
9.7		Ugly number		
Searching & Sorting				
10.1		Merge Sort		
10.2		Bubble Sort		
10.3		Peak Element		
10.4		Binary Search		
10.5		Frequency of Numbers		

Ex. No. : Date: 13.03.2024

Register No.: 230701125 Name: Janarthanan B

```
p=",")
print("{:0.1f}".for
mat(d),type(d),se
p=",")
```

	Input	Expected	Got	
✔	10 10.9	10,<class 'int'> 10.9,<class 'float'>	10,<class 'int'> 10.9,<class 'float'>	✔
✔	12 12.5	12,<class 'int'> 12.5,<class 'float'>	12,<class 'int'> 12.5,<class 'float'>	✔
✔	89 7.56	89,<class 'int'> 7.6,<class 'float'>	89,<class 'int'> 7.6,<class 'float'>	✔
✔	55000 56.2	55000,<class 'int'> 56.2,<class 'float'>	55000,<class 'int'> 56.2,<class 'float'>	✔
✔	2541 2541.679	2541,<class 'int'> 2541.7,<class 'float'>	2541,<class 'int'> 2541.7,<class 'float'>	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

1.2

1.3

Square Root

Write a simple python program to find the square root of a given floating point number. The output should be displayed with 3 decimal places.

Sample Input:

8.00

Sample Output:

2.828

For example:

Input	Result
14.00	3.742

```
import math a=float(input())
s=math.sqrt(a)
print("{:.3f}".format(s))
```

Ex. No. : **Date: 13.03.2024**

Register No.: 230701125 **Name: Janarthanan B**

	Input	Expected	Got	
✔	8.00	2.828	2.828	✔
✔	14.00	3.742	3.742	✔
✔	4.00	2.000	2.000	✔
✔	487	22.068	22.068	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : **Date: 13.03.2024**

Register No.: 230701125 **Name: Janarthanan B**

	Input	Expected	Got	
✔	10000 250 15000	46.34 is the gain percent.	46.34 is the gain percent.	✔
✔	45500 500 60000	30.43 is the gain percent.	30.43 is the gain percent.	✔
✔	5000 0 7000	40.00 is the gain percent.	40.00 is the gain percent.	✔
✔	12500 5000 18000	2.86 is the gain percent.	2.86 is the gain percent.	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

```
s=int(input())          a=(500-
s)/130
    print("weekdays {:.2f}".format(abs(a)+10))
    print("weekend {:.2f}".format(abs(a)))
```

	Input	Expected	Got	
✔	450	weekdays 10.38 weekend 0.38	weekdays 10.38 weekend 0.38	✔
✔	500	weekdays 10.00 weekend 0.00	weekdays 10.00 weekend 0.00	✔
✔	10000	weekdays 83.08 weekend 73.08	weekdays 83.08 weekend 73.08	✔
✔	6789	weekdays 58.38 weekend 48.38	weekdays 58.38 weekend 48.38	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : 1.6 **Date: 13.03.2024**

Register No.: 230701125 **Name: Janarthanan B**

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Carpenter

Justin is a carpenter who works on an hourly basis. He works in a company where he is paid Rs 50 for an hour on weekdays and Rs 80 for an hour on weekends. He works 10 hrs more on weekdays than weekends. If the salary paid for him is given, write a program to find the number of hours he has worked on weekdays and weekends.

Hint:

If the final result(hrs) are in -ve convert that to +ve using abs() function

The abs() function returns the absolute value of the given number.

```
number = -20 absolute_number
= abs(number)
print(absolute_number)
# Output:20
```

Sample Input: 450

Sample Output: weekdays

10.38

weekend 0.38

For example:

Input	Result
450	weekdays 10.38 weekend 0.38

Ex. No. : **Date: 13.03.2024**

Register No.: 230701125 **Name: Janarthanan B**

a=int(input()) b=int(input()) c=a*0.1 d=b*0.25

e=c+d print("Your total refund will be

${:.2f}.".format(e))

	Input	Expected	Got	
✔	20 20	Your total refund will be $7.00.	Your total refund will be $7.00.	✔
✔	11 22	Your total refund will be $6.60.	Your total refund will be $6.60.	✔
✔	123 200	Your total refund will be $62.30.	Your total refund will be $62.30.	✔
✔	76 38	Your total refund will be $17.10.	Your total refund will be $17.10.	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

1.5

Deposits

In many jurisdictions, a small deposit is added to drink containers to encourage people to recycle them. In one particular jurisdiction, drink containers holding one liter or less have a $0.10 deposit and drink containers holding more than one liter have a $0.25 deposit. Write a program that reads the number of containers of each size(less and more) from the user. Your program should continue by computing and displaying the refund that will be received for returning those containers. Format the output so that it includes a dollar sign and always displays exactly two decimal places.

Sample Input

10

20

Sample Output

Your total refund will be $6.00.

For example:

Input	Result
20 20	Your total refund will be $7.00.

1.4

Gain percent

Alfred buys an old scooter for Rs. X and spends Rs. Y on its repairs. If he sells the scooter for Rs. Z (Z>X+Y). Write a program to help Alfred to find his gain percent. Get all the above-mentioned values through the keyboard and find the gain percent.

Input Format:

The first line contains the Rs X

The second line contains Rs Y

The third line contains Rs Z Sample

Input:

10000

250

15000

Sample Output:

46.34 is the gain percent.

For example:

Input	Result
45500 500 60000	30.43 is the gain percent.

```
buys=int(input()) repair=int(input())
sells=int(input()) g=(((sells-
(buys+repair))/(buys+repair))*100)
print("{:.2f}".format(g), "is the gain percent.")
```

Ex. No. : **Date: 13.03.2024**

Register No.: 230701125 **Name: Janarthanan B**

	Input	Expected	Got	
✔	10000	16000	16000	✔
✔	20000	32000	32000	✔
✔	28000	44800	44800	✔
✔	5000	8000	8000	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Gross Salary

Ramesh's basic salary is input through the keyboard. His dearness allowance is 40% of his basic salary, and his house rent allowance is 20% of his basic salary. Write a program to calculate his gross salary.

Sample Input:

10000

Sample Output:

16000

For example:

Input	Result
10000	16000

```
s=int(input())
da=s*0.4 ha=s*0.2
print(int(s+da+ha))
```

01 - Introduction to Python-Variables-Datatypes

Input/Output-Formatting

Ex. No. : 1.1 **Date: 13.03.2024**

Register No.: 230701125 **Name: Janarthanan B**

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Converting Input Strings

Write a program to convert strings to an integer and float and display its type.

Sample Output:

10,<class 'int'>

10.9,<class 'float'>

For example:

Input	Result
10 10.9	10,<class 'int'> 10.9,<class 'float'>

```
a=input()
b=input() c=int(a)
d=float(b)
print(c,type(c),se
```

5.8		String characters balance Test		
5.9		Unique Names		
5.10		Username Domain Extension		
List in Python				
6.1		Monotonic array		
6.2		Check pair with difference k .		
6.3		Count Elements		
6.4		Distinct Elements in an Array		
6.5		Element Insertion		
6.6		Find the Factor		
6.7		Merge list		
6.8		Merge Two Sorted Arrays Without Duplication		
6.9		Print Element Location		
6.10		Strictly increasing		
Tuples & Set				
7.1		Binary String		
7.2		Check Pair		
7.3		DNA Sequence		
7.4		Print repeated no		
7.5		Remove repeated		
7.6		malfunctioning keyboard		
7.7		American keyboard		
Dictionary				
8.1		Uncommon Words		
8.2		Sort Dictionary By Values Summation		

3.3		Electricity Bill		
3.4		IN/OUT		
3.5		Vowel or Constant		
3.6		Leap Year		
3.7		Month name to Days		
3.8		Pythagorean triple		
3.9		Second Last Digit		
3.10		Chinese Zodiac		
Algorithmic Approach: Iteration Control Structures				
4.1		Factors of a Number		
4.2		Non-Repeated Digits Count		
4.3		Prime Checking		
4.4		Next Perfect Square		
4.5		Nth Fibonacci		
4.6		Disarium Number		
4.7		Sum of Series		
4.8		Unique Digits Count		
4.9		Product of single digits		
4.10		Perfect Square After adding One		
Strings in Python				
5.1		Count chars		
5.2		Decompress the String		
5.3		First N Common Characters		
5.4		Remove Characters		
5.5		Remove Palindrome Words		
5.6		Return Second Word in Uppercase		
5.7		Reverse String		

ACADEMIC YEAR: 2023 - 2024