

# **RAJALAKSHMI ENGINEERING COLLEGE**

**RAJALAKSHMI NAGAR, THANDALAM – 602 105**



**RAJALAKSHMI  
ENGINEERING COLLEGE**

**CS23221  
PYTHON PROGRAMMING LAB**

**Laboratory Observation NoteBook**

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**Year/Branch/Section: 1-year/CSE/F**

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## INDEX

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**Branch: CSE**

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S. No.	Date	Title	Page No.	Teacher's Signature / Remarks
<b>Introduction to python-Variables-Data Types-Input/Output-Formatting</b>				
1.1	12.03.24	Converting Input Strings	8	
1.2	12.03.24	Gross salary	10	
1.3	12.03.24	Square Root	11	
1.4	12.03.24	Gain percent	12	
1.5	12.03.24	Deposits	14	
1.6	12.03.24	Carpenter	16	
<b>Operators in Python</b>				
2.1	06.04.24	Widgets and Gizmos	19	
2.2	06.04.24	Doll Sings	20	
2.3	06.04.24	Birthday party	22	
2.4	06.04.24	Hamming Weight	24	
2.5	06.04.24	Compound Interest	25	
2.6	06.04.24	Eligible to donate blood	26	
2.7	06.04.24	C or D	28	
2.8	06.04.24	Troy Battle	30	
2.9	06.04.24	Tax and Tip	32	
2.10	06.04.24	Return last digit of the given number	34	



Selection Structures in Python				
3.1	12.04.24	Admission eligibility	37	
3.2	12.04.24	Classifying triangles	40	
3.3	12.04.24	Electricity Bill	42	
3.4	12.04.24	IN/OUT	45	
3.5	12.04.24	Vowel or Constant	47	
3.6	12.04.24	Leap Year	49	
3.7	12.04.24	Month name to Days	52	
3.8	12.04.24	Pythagorean triple	54	
3.9	12.04.24	Second Last Digit	56	
3.10	12.04.24	Chinese Zodiac	58	
Algorithmic Approach: Iteration Control Structures				
4.1	13.04.24	Factors of a Number	61	
4.2	13.04.24	Non-Repeated Digits Count	63	
4.3	13.04.24	Prime Checking	64	
4.4	13.04.24	Next Perfect Square	66	
4.5	13.04.24	Nth Fibonacci	67	
4.6	13.04.24	Disarium Number	69	
4.7	13.04.24	Sum of Series	70	
4.8	13.04.24	Unique Digits Count	72	
4.9	13.04.24	Product of single digits	73	
4.10	13.04.24	Perfect Square After adding One	75	
Strings in Python				
5.1	17.04.24	Count chars	78	
5.2	17.04.24	Decompress the String	79	
5.3	17.04.24	First N Common Characters	80	
5.4	17.04.24	Remove Characters	82	
5.5	17.04.24	Remove Palindrome Words	84	
5.6	17.04.24	Return Second Word in Uppercase	85	
5.7	17.04.24	Reverse String	87	
5.8	17.04.24	String characters balance Test	88	
5.9	17.04.24	Unique Names	89	
5.10	17.04.24	Username Domain Extension	90	
List in Python				



6.1	<b>04.05.24</b>	Monotonic array	<b>93</b>	
6.2	<b>04.05.24</b>	Check pair with the difference k .	<b>96</b>	
6.3	<b>04.05.24</b>	Count Elements	<b>98</b>	
6.4	<b>04.05.24</b>	Distinct Elements in an Array	<b>101</b>	
6.5	<b>04.05.24</b>	Element Insertion	<b>104</b>	
6.6	<b>04.05.24</b>	Find the Factor	<b>107</b>	
6.7	<b>04.05.24</b>	Merge list	<b>111</b>	
6.8	<b>04.05.24</b>	Merge Two Sorted Arrays Without Duplication	<b>114</b>	
6.9	<b>04.05.24</b>	Print Element Location	<b>117</b>	
6.10	<b>04.05.24</b>	Strictly increasing	<b>124</b>	
<b>Tuples &amp; Set</b>				
7.1	<b>18.05.24</b>	Binary String	<b>126</b>	
7.2	<b>18.05.24</b>	Check Pair	<b>131</b>	
7.3	<b>18.05.24</b>	DNA Sequence	<b>133</b>	
7.4	<b>18.05.24</b>	Print repeated no	<b>136</b>	
7.5	<b>18.05.24</b>	Remove repeated	<b>138</b>	
7.6	<b>18.05.24</b>	malfunctioning keyboard	<b>141</b>	
7.7	<b>18.05.24</b>	American keyboard	<b>143</b>	
<b>Dictionary</b>				
8.1	<b>25.05.24</b>	Uncommon Words	<b>145</b>	
8.2	<b>25.05.24</b>	Sort Dictionary By Values Summation	<b>149</b>	
8.3	<b>25.05.24</b>	Winner Of Election	<b>151</b>	
8.4	<b>25.05.24</b>	Student Record	<b>154</b>	
8.5	<b>25.05.24</b>	Scramble Score	<b>156</b>	
<b>Functions</b>				
9.1	<b>01.06.24</b>	Abundant Number	<b>158</b>	
9.2	<b>01.06.24</b>	Automorphic number or not	<b>161</b>	
9.3	<b>01.06.24</b>	Check Product of Digits	<b>166</b>	
9.4	<b>01.06.24</b>	Christmas Discount	<b>169</b>	



9.5	<b>01.06.24</b>	Coin Change	<b>170</b>	
9.6	<b>01.06.24</b>	Difference Sum	<b>171</b>	
9.7	<b>01.06.24</b>	Ugly number	<b>172</b>	
<b>Searching &amp; Sorting</b>				
10.1	<b>01.06.24</b>	Merge Sort	<b>173</b>	
10.2	<b>01.06.24</b>	Bubble Sort	<b>174</b>	
10.3	<b>01.06.24</b>	Peak Element	<b>175</b>	
10.4	<b>01.06.24</b>	Binary Search	<b>176</b>	
10.5	<b>01.06.24</b>	Frequency of Numbers	<b>177</b>	
<b>Exception Handling</b>				
11.1	<b>02.06.24</b>	Exception Handling-1	<b>178</b>	
11.2	<b>02.06.24</b>	Exception Handling-2	<b>180</b>	
11.3	<b>02.06.24</b>	Exception Handling-3	<b>181</b>	
11.4	<b>02.06.24</b>	Exception Handling-4	<b>183</b>	
11.5	<b>02.06.24</b>	Exception Handling-5	<b>185</b>	
<b>Modules</b>				
12.1	<b>07.06.24</b>	Representing unique pairs	<b>187</b>	
12.2	<b>07.06.24</b>	Calculating average	<b>190</b>	
12.3	<b>07.06.24</b>	Using dictionary	<b>191</b>	
12.4	<b>07.06.24</b>	Power of four	<b>193</b>	
12.5	<b>07.06.24</b>	Determining the total revenue	<b>195</b>	



# **01 - Introduction to Python-Variables-Datatypes**

## **Input/Output-Formatting**



**Ex. No: 1.1**

**Date: 12.03.24**

**Register No.: 230701389**

**Name: Yokeshwaran K**

## **Converting Input Strings**

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

*Sample Input:*

10

10.9

*Sample Output:*

10,<class 'int'>

10.9,<class 'float'>

**For example:**

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

**Program:**

```
a=int(input())
```

```
print(a,end=",")
```

```
print(type(a))
```



```
b=float(input())
```

```
print(round(b,1),end=",")
```

```
print(type(b))
```

	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'>	✓





**Ex. No: 1.2**

**Date: 12.03.24**

**Register No.: 230701389**

**Name: Yokeshwaran K**

### **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

**Program:**

```
a=int(input())
```

```
b=a*0.6
```

```
print(round(a+b))
```



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

**Ex. No. :1.3**

**Date: 12.03.24**

**Register No.: 230701389**

**Name: Yokeshwaran K**

## 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

**Program:**

```
import math
```

```
a=float(input())
```

```
b=math.sqrt(a)
```



```
print(format(b, ".3f"))
```

	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	✓



**Ex. No. : 1.4**

**Date: 12.03.24**

**Register No.: 230701389**

**Name: Yokeshwaran K**

### **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.



**Program:**

```
a=int(input())
b=int(input())
c=int(input())
d=a+b
e=c-d
f=(e/d)*100
print(format(f,".2f"),"is the gain percent.")
```

	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.	✓



**Ex. No.: 1.5**

**Date: 12.03.24**

**Register No.: 230701389**

**Name: Yokeshwaran K**

## **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.

**Program:**

```
a=int(input())
```

```
b=int(input())
```

```
c=a*0.1+b*0.25
```



```
print("Your total refund will be $",format(c, ".2f"), ".",sep="")
```

	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.	✓



Ex. No.: 1.6

Date: 12.03.24

Register No.: 230701389

Name: Yokeshwaran K

## 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





**Program:**

```
a=int(input())  
b=((500-a)/130)  
b=abs(b)  
c=b+10  
print("weekdays",format(c,".2f"))  
print("weekend",format(b,".2f"))
```

	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	✓

