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01 - Introduction to Python-Variables-Datatypes Input/Output-Formatting

**Ex.No. : 1.1 Date:14/03/2024**

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**RegisterNo.: 231401021 Name:DEVADHARSHINI K S**

# [ConvertingInputStrings](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=6373)

Writeaprogramtoconvertstringstoanintegerandfloatanddisplayitstype.

*SampleInput:*

10

10.9

*Sample Output:* 10,<class 'int'>10.9,<class 'float'>

## Forexample:

|  |  |
| --- | --- |
| **Input** | **Result** |
| 10  10.9 | 10,<class 'int'> 10.9,<class 'float'> |

**Answer:**a=int(input()) b=float(input()) print(a,type(a),sep=",")

print(round(b,1),type(b),sep=",")

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **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'> |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Input** | **Expected** | **Got** |  | |
|  | 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'> |  | |

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**Ex.No. : 1.2 Date:14/03/2024**

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# [GrossSalary](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=6374)

Ramesh’sbasicsalaryisinputthroughthekeyboard.Hisdearnessallowanceis40% of his basic salary, and his house rent allowance is 20% of his basic salary. Write a program to calculate his gross salary.

*SampleInput:*

10000

*SampleOutput:*

16000

## Forexample:

|  |  |
| --- | --- |
| **Input** | **Result** |
| 10000 | 16000 |

**Answer:** a=int(input()) b=40/100\*a c=20/100\*a d=a+b+cprint(round(d))

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Input** | **Expected** | **Got** |  |
|  | 10000 | 16000 | 16000 |  |
|  | 20000 | 32000 | 32000 |  |
|  | 28000 | 44800 | 44800 |  |
|  | 5000 | 8000 | 8000 |  |

**Ex.No. : 1.3 Date:14/03/2024**

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# SquareRoot

Writeasimplepythonprogramtofindthesquarerootofagivenfloatingpoint number.Theoutputshould bedisplayed with3decimal places.

SampleInput:

8.00

SampleOutput: 2.828

## Forexample:

|  |  |
| --- | --- |
| **Input** | **Result** |
| 14.00 | 3.742 |

Answer:

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 |  |

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**Ex.No. : 1.4 Date:14/03/2024**

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# [Gainpercent](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=6376)

Alfred buys an old scooter for Rs. X and spends Rs. Y on its repairs. If he sells the scooterforRs.Z(Z>X+Y).WriteaprogramtohelpAlfredtofindhisgainpercent. Getalltheabove-mentionedvaluesthroughthekeyboardandfindthegainpercent.

InputFormat:

The first line contains the Rs X The second line contains Rs Y The third line contains Rs Z Sample Input:

10000

250

15000

SampleOutput:

46.34isthegainpercent.

## Forexample:

|  |  |
| --- | --- |
| **Input** | **Result** |
| 45500  500  60000 | 30.43isthegainpercent. |

**Answer:**

a=int(input())

.

b=int(input()) c=int(input()) g=c-(a+b) gp=g/(a+b)\*100

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print(format(gp,'.2f'),"isthegainpercent.")

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Input** | **Expected** | **Got** |  |
|  | 10000  250  15000 | 46.34isthegainpercent. | 46.34isthegainpercent. |  |
|  | 45500  500  60000 | 30.43isthegainpercent. | 30.43isthegainpercent. |  |
|  | 5000  0  7000 | 40.00isthegainpercent. | 40.00isthegainpercent. |  |
|  | 12500  5000  18000 | 2.86isthegainpercent. | 2.86isthegainpercent. |  |

**Ex.No. : 1.5 Date:14/03/2024**

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# [Deposits](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=6378)

In many jurisdictions, a small deposit is added to drink containers to encourage peopleto recycle them. In one particular jurisdiction, drink containers holding one liter orless 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(lessandmore)fromtheuser.Yourprogramshouldcontinuebycomputingand displaying the refund that will bereceived for returning those containers. Format the output so that it includes a dollarsign and always displays exactly two decimal places.

SampleInput 10

20

SampleOutput

Yourtotalrefundwillbe$6.00.

## Forexample:

|  |  |
| --- | --- |
| **Input** | **Result** |
| 20  20 | Yourtotalrefundwillbe$7.00. |

**Answer:**

x=int(input()) y=int(input()) a=x\*0.10 b=y\*0.25 c=a+b

print("Yourtotalrefundwillbe$",format(c,'.2f'),".",sep="")

.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Input** | **Expected** | **Got** |  |
|  | 20  20 | Yourtotalrefundwillbe$7.00. | Yourtotalrefundwillbe$7.00. |  |
|  | 11  22 | Yourtotalrefundwillbe$6.60. | Yourtotalrefundwillbe$6.60. |  |
|  | 123  200 | Yourtotalrefundwillbe$62.30. | Yourtotalrefundwillbe$62.30. |  |
|  | 76  38 | Yourtotalrefundwillbe$17.10. | Yourtotalrefundwillbe$17.10. |  |

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**Ex.No. : 1.6 Date:14/03/2024**

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# [Carpenter](https://www.rajalakshmicolleges.net/moodle/mod/quiz/view.php?id=6379)

Justinisacarpenterwhoworksonanhourlybasis.Heworksinacompanywhere he is paid Rs 50 for an hour on weekdays and Rs 80for 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() functionTheabs()functionreturnstheabsolutevalueofthegivennumber.

number=-20

absolute\_number = abs(number) print(absolute\_number)

#Output:20

## SampleInput:

450

## SampleOutput:

weekdays10.38

weekend0.38

## Forexample:

|  |  |
| --- | --- |
| **Input** | **Result** |
| 450 | weekdays10.38  weekend0.38 |

**Answer:**

.

x=int(input()) a=(x-(50\*10))

.

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b=a/(130) b=abs(b)

print("weekdays",(format(b+10,'.2f')))

print("weekend",format(b,'.2f'))

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Input** | **Expected** | **Got** |  |
|  | 450 | weekdays10.38  weekend0.38 | weekdays10.38  weekend0.38 |  |
|  | 500 | weekdays10.00  weekend0.00 | weekdays10.00  weekend0.00 |  |
|  | 10000 | weekdays83.08  weekend73.08 | weekdays83.08  weekend73.08 |  |
|  | 6789 | weekdays58.38  weekend48.38 | weekdays58.38  weekend48.38 |  |