

# python\_practicals.txt

---

python\_practicals.txt

1. Explain the different string formats available with examples. 5 Marks in Python

<https://www.guru99.com/python-string-format.html>

<https://www.geeksforgeeks.org/string-formatting-in-python/>

<https://www.programiz.com/python-programming/methods/string/format>

<https://www.javatpoint.com/python-string-format-method>

<https://realpython.com/python-string-formatting/>

"2. Discuss the int()

<https://www.geeksforgeeks.org/python-int-function/>

<https://www.programiz.com/python-programming/methods/built-in/int>

<https://www.techtarget.com/whatis/definition/integer>

[https://en.wikipedia.org/wiki/Integer\\_\(computer\\_science\)](https://en.wikipedia.org/wiki/Integer_(computer_science))

<https://www.scaler.com/topics/int-python/>

"3. Discuss the ord()

<https://www.geeksforgeeks.org/ord-function-python/>

<https://www.programiz.com/python-programming/methods/built-in/ord>

<https://www.programiz.com/python-programming/methods/built-in/chr>

<https://www.programiz.com/python-programming/methods/built-in/oct>

<https://www.programiz.com/python-programming/methods/built-in/open>

"4. Describe the is and is not operators and type() function. Also

<https://www.studytonight.com/post/membership-and-identity-operators-in-python-in-not-in-is-and-is-not>

<https://www.studytonight.com/post/membership-and-identity-operators-in-python-in-not-in-is-and-is-not#1>

<https://www.studytonight.com/post/membership-and-identity-operators-in-python-in-not-in-is-and-is-not#2>

<https://www.studytonight.com/post/membership-and-identity-operators-in-python-in-not-in-is-and-is-not#3>

<https://www.studytonight.com/post/membership-and-identity-operators-in-python-in-not-in-is-and-is-not#4>

2. Illustrate the different types of control flow statements available with flowcharts. 5 Marks in Python

[https://f4n3x6c5.stackpathcdn.com/article/python-flow-control-statements/Images/pf3.png?](https://f4n3x6c5.stackpathcdn.com/article/python-flow-control-statements/Images/pf3.png?sa=X&ved=2ahUKEwiC0amE7L_8AhXLI1YBHccXCMsQ_B16BAglEAI)

<https://www.c-sharpcorner.com/article/python-flow-control-statements/>

<https://www.educative.io/answers/what-are-control-flow-statements-in-python>

<https://www.geeksforgeeks.org/python-if-else/>

<https://www.scaler.com/topics/python/control-flow-statements-in-python/>

"6. Write a Program to Prompt for a Score between 0.0 and 1.0. If the Score is out of range

<https://user-images.githubusercontent.com/65031541/81931589-2acbe180-960c-11ea-9b76-a1c979ae52bb.png>?

sa=X&ved=2ahUKEwjTgu2F7L\_8AhW5kIYBHVynBRUQ\_B16BAgDEAI

<https://gist.github.com/ec7e579b2a205978d351>

<https://gist.github.com/Mohamed2del/a69a57dde82453a963c86af915b08feb>

<https://brainly.in/question/17865692>

<https://trinket.io/embed/python/d13feb667c>

table in Python

<https://www.geeksforgeeks.org/how-to-make-a-table-in-python/>

<https://www.programiz.com/python-programming/examples/multiplication-table>

[https://www.w3schools.com/python/python\\_mysql\\_create\\_table.asp](https://www.w3schools.com/python/python_mysql_create_table.asp)

<https://towardsdatascience.com/how-to-easily-create-tables-in-python-2eaea447d8fd>

<https://www.stechies.com/create-table-python/>

3. Write a program to display the fibonacci sequences up to nth term where n is provided by the user. 7 Marks in Python

<https://scanfree.com/programs/python/python-program-to-print-the-fibonacci-sequence/>

<https://www.programiz.com/python-programming/examples/fibonacci-sequence>

<https://prepinsta.com/python-program/find-fibonacci-series-up-to-n/>

<https://www.geeksforgeeks.org/python-program-for-n-th-fibonacci-number/>

<https://www.geeksforgeeks.org/python-program-for-program-for-fibonacci-numbers-2/>

4. Write a program to repeatedly check for the largest number until the user enters "done". 5 Marks in Python

<https://gist.github.com/AmruthPillai/77026640f8be299fd3d61e740034c1fa>

<https://stackoverflow.com/questions/62295062/coursera-python-for-everybody-ex-5-2>

<https://stackoverflow.com/questions/31256648/beginner-python-code-issues>

<https://stackoverflow.com/questions/62629024/largest-and-smallest-number-using-input-while-loop-python>

<https://stackoverflow.com/questions/23294658/asking-the-user-for-input-until-they-give-a-valid-response>

5. Write a program to find the sum of all Odd and Even numbers up to a number specified by the user. 6 Marks in Python

<https://www.tutorialgateway.org/python-program-to-find-sum-of-even-and-odd-numbers/>

<https://www.tutorialgateway.org/python-program-to-find-sum-of-even-and-odd-numbers-in-a-list/>

<https://www.geeksforgeeks.org/python-program-to-find-the-sum-of-all-even-and-odd-digits-of-an-integer-list/>

<https://codescracker.com/python/program/python-sum-of-odd-even-numbers.htm>

<https://www.quora.com/How-do-you-write-a-program-to-display-all-the-odd-numbers-and-even-numbers-in-a-range-given-by-a-user> How-do-you-display-the-sum-at-the-end-in-Python

6. Explain the need for continue and break statements. Write a program to check whether a number is prime or not. Prompt the user for input. 8 Marks in Python

<https://www.programiz.com/python-programming/examples/prime-number>  
<https://www.geeksforgeeks.org/python-program-to-check-whether-a-number-is-prime-or-not/>  
<https://www.tutorialspoint.com/python-program-to-check-if-a-number-is-prime-or-not>  
<https://www.stechies.com/python-prime-number/>  
<https://beginnersbook.com/2018/01/python-program-check-prime-or-not/>

7. Describe the need for catching exceptions using try and except statements. 10

Marks in Python

[https://www.w3schools.com/python/python\\_try\\_except.asp](https://www.w3schools.com/python/python_try_except.asp)  
<https://www.javatpoint.com/python-exception-handling>  
<https://www.geeksforgeeks.org/python-exception-handling/>  
<https://www.geeksforgeeks.org/python-try-except/>  
<https://www.programiz.com/python-programming/exception-handling>

8. Describe the syntax for the following functions and explain with an example. in

Python

<https://www.programiz.com/python-programming/function>  
<https://www.programiz.com/python-programming/function-argument>  
<https://www.programiz.com/python-programming/methods/built-in>  
<https://www.programiz.com/python-programming/anonymous-function>  
<https://www.tutorialsteacher.com/python/python-user-defined-function>

a) abs() b) max() c) divmod() d) pow() e) len() 5 Marks in Python

<https://www.digitalocean.com/community/tutorials/built-in-python-3-functions-for-working-with-numbers>  
<https://data-flair.training/blogs/python-built-in-functions/>  
<https://www.geeksforgeeks.org/divmod-python-application/>  
<https://www.analyticsvidhya.com/blog/2021/07/15-python-built-in-functions-which-you-should-know-while-learning-data-science/>  
<https://www.coursehero.com/file/p7epr7c/Describe-the-syntax-for-the-following-functions-and-explain-with-an-example-a/>

9. Write Pythonic code to solve the quadratic equation  $ax^2 + bx + c = 0$  by getting

input for coefficients from the user. 8 Marks in Python

<https://www.geeksforgeeks.org/python-program-to-solve-quadratic-equation/>  
<https://www.programiz.com/python-programming/examples/quadratic-roots>  
<https://www.javatpoint.com/python-quadratic-equation>  
<https://www.toppr.com/guides/python-guide/examples/python-examples/python-program-solve-quadratic-equation/>  
<https://www.codinggeek.com/python-examples/solve-quadratic-equation/>

10. Find the area and perimeter of a circle using functions. Prompt the user for input.

6 Marks in Python

<https://www.includehelp.com/python/find-the-area-and-perimeter-of-a-circle.aspx>  
<https://www.w3resource.com/python-exercises/python-basic-exercise-4.php>  
<https://www.javatpoint.com/how-to-calculate-area-of-circle-using-python>

<https://www.code4example.com/python/python-program-to-calculate-perimeter-area-circle/>  
<https://www.tutsmake.com/python-program-to-find-area-and-circumference-of-circle-using-radius/>

11. Write a Python program using functions to find the value of nPr and nCr without using inbuilt factorial() function. 8 Marks in Python

<https://codescracker.com/python/program/python-program-find-ncr-npr.htm>  
<https://easy-to-code.blogspot.com/2020/08/write-python-program-using-functions-to.html>  
<https://www.codespeedy.com/python-program-to-calculate-the-value-of-npr/>  
<https://www.geeksforgeeks.org/program-calculate-value-ncr/>  
<https://www.geeksforgeeks.org/program-to-calculate-the-value-of-npr/>

12. Write a program to print the sum of the following series  $1 + 1/2 + 1/3 + \dots + 1/n$  8 Marks in Python

<https://www.sanfoundry.com/python-program-find-sum-series-1/>  
<https://www.geeksforgeeks.org/c-program-find-sum-series-1-12-13-14-1n/>  
<https://www.geeksforgeeks.org/program-find-sum-series-1-122-133-1nn/>  
<https://stackoverflow.com/questions/57844002/find-the-sum-of-the-series-1-1-2-1-3-1-n-using-while-loop>  
<https://pynative.com/python-program-to-calculate-sum-and-average-of-numbers/>

13. Write Python program to replace comma-separated words with hyphens and print hyphen-separated words in ascending order. 5 Marks in Python

<https://www.electronicclinic.com/tag/example-write-a-python-program-to-replace-comma-separated-words-with-hyphens-and-print> hyphen-separated-words-in-ascending-order/  
<https://www.w3resource.com/python-exercises/python-functions-exercise-15.php>  
<https://www.quora.com/How-do-you-write-a-Python-program-that-accepts-a-hyphen-separated-sequence-of-words-as-input-and-prints> the-words-in-a-hyphens-separated-sequence-after-sorting-them-alphabetically  
<https://www.geeksforgeeks.org/program-to-replace-every-space-in-a-string-with-hyphen/>  
<https://programmingdigest.com/tag/example-write-a-python-program-to-replace-comma-separated-words-with-hyphens-and-print> hyphen-separated-words-in-ascending-order/

14. Explain the need for Unicodes. 5 Marks in Python

<https://docs.python.org/3/howto/unicode.html>  
<https://realpython.com/python-encodings-guide/>  
[https://www.geeksforgeeks.org/unicode\\_literals-in-python/](https://www.geeksforgeeks.org/unicode_literals-in-python/)  
<https://towardsdatascience.com/a-guide-to-unicode-utf-8-and-strings-in-python-757a232db95c>  
[https://www.youtube.com/watch?v=kxx\\_T8\\_V2us](https://www.youtube.com/watch?v=kxx_T8_V2us)

15. Discuss the following list functions in Python

<https://www.softwaretestinghelp.com/python-list-functions/>  
<https://www.geeksforgeeks.org/list-methods-in-python/>  
<https://www.datacamp.com/tutorial/python-list-function>  
[https://www.datacamp.com/tutorial/python-list-function#python-list-type\(\)-function](https://www.datacamp.com/tutorial/python-list-function#python-list-type()-function)  
<https://www.datacamp.com/tutorial/python-list-function#python-list-min-function>

a) len() b) sum() c) any() d) all() e) sorted() 5 Marks in Python

<https://www.geeksforgeeks.org/list-methods-in-python-set-1-in-not-in-len-min-max/>

<https://www.geeksforgeeks.org/list-methods-in-python/>

<https://www.programiz.com/python-programming/methods/built-in/sum>

<https://www.w3resource.com/python-exercises/list/>

<https://www.freecodecamp.org/news/the-python-sort-list-array-method-ascending-and-descending-explained-with-examples/>

16. Explain the following list methods with an example. a) append() b) extend() c) insert() d) index() e) sort() 5 Marks in Python

<https://www.geeksforgeeks.org/list-methods-in-python/>

<https://www.geeksforgeeks.org/list-methods-in-python-set-2-del-remove-sort-insert-pop-extend/>

<https://www.programiz.com/python-programming/methods/list/extend>

<https://www.programiz.com/python-programming/methods/list/insert>

<https://realpython.com/python-lists-tuples/>

"5. Check if the items in the list are sorted in ascending or descending order and print suitable messages accordingly. Otherwise

<https://www.geeksforgeeks.org/python-check-if-list-is-sorted-or-not/>

<https://www.geeksforgeeks.org/python-check-for-descending-sorted-list/>

<https://www.freecodecamp.org/news/python-sort-list-how-to-order-by-descending-or-ascending/>

<https://www.tutorialspoint.com/check-if-list-is-sorted-or-not-in-python>

<https://stackoverflow.com/questions/58626883/how-to-find-if-the-elements-in-a-list-are-in-ascending-order-or-in-descending-or>

17. Write Pythonic code to multiply two matrices using nested loops and also perform transpose of the resultant matrix. 8 Marks in Python

<https://www.geeksforgeeks.org/python-program-multiply-two-matrices/>

<https://www.programiz.com/python-programming/examples/multiply-matrix>

<https://www.programiz.com/python-programming/examples/transpose-matrix>

<https://www.javatpoint.com/python-multiply-two-matrices>

<https://www.tutorialspoint.com/python-program-multiplication-of-two-matrix>

18. Write Python program to sort words in a sentence in decreasing order of their length. Display the sorted words along with their length. 7 Marks in Python

<https://www.geeksforgeeks.org/python-sort-words-sentence-ascending-order/>

<https://www.freecodecamp.org/news/python-sort-list-how-to-order-by-descending-or-ascending/>

<https://www.javatpoint.com/python-sort-words-in-alphabetic-order>

<https://www.programiz.com/python-programming/examples/alphabetical-order>

<https://www.quora.com/How-do-you-sort-words-in-a-sentence-in-Python>

19. Write a function which receives a variable number of strings as arguments. Find unique characters in each string. 6 Marks in Python

<https://www.geeksforgeeks.org/count-the-number-of-unique-characters-in-a-string-in-python/>

<https://brainly.in/question/50896561>

<https://www.codespeedy.com/count-the-number-of-unique-characters-in-a-string-in-python/>

<https://stackoverflow.com/questions/28642055/count-the-number-of-unique-characters-in-a-string-using-only-for-loops-and-if-el>

<https://stackoverflow.com/questions/13902805/list-of-all-unique-characters-in-a-string>

20. Write Pythonic code to create a function called `most_frequent` that takes a string and prints the letters in decreasing order of frequency. Use dictionaries. 8 Marks in Python

<https://stackoverflow.com/questions/665942/how-to-write-a-function-that-takes-a-string-and-prints-the-letters-in-decreasing>

<https://stackoverflow.com/questions/10150706/letter-frequency-get-frequencies-to-print-in-order-from-most-to-least-used>

<https://stackoverflow.com/questions/4131123/finding-the-most-frequent-character-in-a-string>

<https://stackoverflow.com/questions/40985203/counting-letter-frequency-in-a-string-python>

<https://stackoverflow.com/questions/3594514/how-to-find-most-common-elements-of-a-list>

"4. Consider the string 'brontosaurus'. Write Pythonic code that implements and returns the functionality of histogram using dictionaries for the given string. Also

[http://notesinterpreter.in/Admin/Admin\\_contents/Ad\\_Syllabus\\_Notes/Ad\\_PY\\_contents/uploads/Python-Lab Programs.pdf](http://notesinterpreter.in/Admin/Admin_contents/Ad_Syllabus_Notes/Ad_PY_contents/uploads/Python-Lab Programs.pdf)

<https://www.w3resource.com/python-exercises/python-basic-exercise-26.php>

<https://www.coursehero.com/file/pa2kih/Write-a-function-which-receives-a-variable-number-of-strings-as-arguments-Find/>

<https://www.coursehero.com/file/58282325/Python-Model-Question-Paper-2doc/>

[https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer science-and-engineering-programme.html](https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer-science-and-engineering-programme.html)

"5. Write Pythonic code that implements and returns the functionality of histogram using dictionaries. Also

<https://www.w3resource.com/python-exercises/python-basic-exercise-26.php>

<https://www.geeksforgeeks.org/plotting-histogram-in-python-using-matplotlib/>

<https://www.youtube.com/watch?v=2yyZEBtkRyE>

<https://realpython.com/python-histograms/>

<https://realpython.com/lessons/pure-python-histograms/>

21. Describe the different access modes of the files with an example. 6 Marks in Python

<https://www.geeksforgeeks.org/reading-writing-text-files-python/>

<https://scanfreetree.com/python/python-access-mode-of-files>

<https://ncert.nic.in/textbook/pdf/lecs102.pdf>

<https://study.com/academy/lesson/accessing-files-with-python.html>

<https://www.digitalocean.com/community/tutorials/python-read-file-open-write-delete-copy>

22. Discuss the following methods associated with the file object in Python

<https://www.geeksforgeeks.org/file-objects-python/>

<https://pynative.com/python-file-objects/>

<https://pynative.com/python-file-objects/#h-types-of-file-object>

<https://pynative.com/python-file-objects/#h-file-object-attributes>

<https://pynative.com/python-file-objects/#h-file-object-methods>

a) `read()` b) `readline()` c) `readlines()` d) `tell()` e) `seek()` f) `write()` 6 Marks in Python

<https://www.edureka.co/blog/python-readline/>

<https://www.zframez.com/tutorials/python-tutorial-file-operations.html>

<https://www.guru99.com/python-file-readline.html>



<https://www.sanfoundry.com/python-mcqs-files-1/>

<https://www.digitalocean.com/community/tutorials/python-read-file-open-write-delete-copy>

23. Write Python Program to Reverse Each Word in “secret\_societies.txt” file. 6

Marks in Python

<https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer-science-and-engineering-programme.html>

<https://www.coursehero.com/file/pa2kih/Write-a-function-which-receives-a-variable-number-of-strings-as-arguments-Find/>

<https://iun.bastilas-erben.de/en/cs-python-fundamentals-test-1-answers>

<https://dokumen.pub/download/introduction-to-python-programming-9780815394372-9781351013239-0815394373.html>

<https://dokumen.pub/introduction-to-python-programming-9780815394372-0815394373-9781351013222-135101322x> 9781351013239-1351013238.html

24. Write Python Program to Count the Occurrences of Each Word and Also Count the Number of Words in a “quotes.txt” File. 7 Marks in Python

<https://www.cs2study.com/wp-content/uploads/2021/03/Text-File-exam-based-questions.pdf>

[https://jamalpur.kvs.ac.in/sites/default/files/sample\\_paper\\_xii\\_cs\\_python\\_board.pdf](https://jamalpur.kvs.ac.in/sites/default/files/sample_paper_xii_cs_python_board.pdf)

[https://no2dundigal.kvs.ac.in/sites/default/files/computer\\_science\\_all\\_region\\_qp\\_%26\\_answer\\_key.pdf](https://no2dundigal.kvs.ac.in/sites/default/files/computer_science_all_region_qp_%26_answer_key.pdf)

<https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer-science-and-engineering-programme.html>

[https://www.teachmint.com/tfile/study\\_material/12/cs/term1questionbank\(goyal\)/6da8fe32-9d02-47f9-a93e-efdb696acf0a](https://www.teachmint.com/tfile/study_material/12/cs/term1questionbank(goyal)/6da8fe32-9d02-47f9-a93e-efdb696acf0a)

25. Write Python Program to Find the Longest Word in a File. Get the File Name from User. 7 Marks in Python

[https://www.w3resource.com/w3r\\_images/python-io-exercise-flowchart-8.png?](https://www.w3resource.com/w3r_images/python-io-exercise-flowchart-8.png?sa=X&ved=2ahUKEwjGgeC17L_8AhV8kIYBHQGfD5YQ_B16BAgCEAI)

<https://www.w3resource.com/python-exercises/file/python-io-exercise-8.php>

<https://www.w3resource.com/python-exercises/file/python-io-exercise-8.php>

<https://www.tutorialspoint.com/how-to-find-the-longest-words-in-a-text-file-using-python>

<https://www.geeksforgeeks.org/python-program-to-return-the-length-of-the-longest-word-from-the-list-of-words/>

<https://joombig.com/sqlc/Python-Program-to-Find-the-Longest-Words-in-a-File-tutorials-advance>

26. Consider a File Called “workfile”. Write Python Program to Read and Print Each Byte in the Binary File. 5 Marks in Python

<https://medium.com/edureka/file-handling-in-python-e0a6ff96ede9>

<https://docs.python.org/3/tutorial/inputoutput.html>

<https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer-science-and-engineering-programme.html>

<https://www.slideshare.net/PradyumnaTripathy1/pythonfile-handlingslidespkt>

<https://stackoverflow.com/questions/5419888/reading-from-a-frequently-updated-file>

27. Write Python program to demonstrate the writing of data to a CSV file using DictWriter class. 6 Marks in Python

<https://www.geeksforgeeks.org/writing-csv-files-in-python/>

<https://www.programiz.com/python-programming/writing-csv-files>  
<https://www.programiz.com/python-programming/writing-csv-files#basic-writer>  
<https://www.programiz.com/python-programming/writing-csv-files#delimiter>  
<https://www.programiz.com/python-programming/writing-csv-files#quotes>

28. Discuss the following methods supported by compiled regular expression objects. in Python

<https://docs.python.org/3/library/re.html>  
<https://docs.python.org/3/howto/regex.html>  
<https://www.geeksforgeeks.org/regular-expression-python-examples-set-1/>  
[https://www.w3schools.com/python/python\\_regex.asp](https://www.w3schools.com/python/python_regex.asp)  
[https://www.w3schools.com/python/python\\_pip.asp](https://www.w3schools.com/python/python_pip.asp)

a) search() b) match() c) findall() 6 Marks in Python

<https://www.guru99.com/python-regular-expressions-complete-tutorial.html>  
<https://www.geeksforgeeks.org/regular-expression-python-examples-set-1/>  
<https://www.geeksforgeeks.org/python-regex-re-search-vs-re-findall/>  
<https://docs.python.org/3/howto/regex.html>  
<https://realpython.com/regex-python-part-2/>

29. Why do you need regular expressions ? Consider a file "ait.txt". Write a Python program to read the file and look for lines of the form X-DSPAM-Confidence: 0.8475 X-DSPAM-Probability: 0.458 Extract the number from each of the lines using a regular expression. Compute the average of the numbers and print out the average. 8 Marks in Python

[https://sist.sathyabama.ac.in/sist\\_coursematerial/uploads/SBI1605.pdf](https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SBI1605.pdf)  
<https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer-science-and-engineering-programme.html>  
<https://www.coursehero.com/file/poee8dn/24-Example-Output-Fig-42-Output-In-the-example-above-condition-1-and-condition-2/>  
[http://notesinterpreter.in/Admin/Admin\\_contents/Ad\\_Syllabus\\_Notes/Ad\\_PY\\_contents/uploads/MQP's-1,2,3 2018-2019.pdf](http://notesinterpreter.in/Admin/Admin_contents/Ad_Syllabus_Notes/Ad_PY_contents/uploads/MQP's-1,2,3 2018-2019.pdf)  
[https://skit.org.in/assets/pdf/downloads/course\\_materials/cs/6thsem/17CS664-PYTHON.pdf](https://skit.org.in/assets/pdf/downloads/course_materials/cs/6thsem/17CS664-PYTHON.pdf)

30. Consider a line "From stephen.marquard@uct.ac.za Sat Jan 5 09:14:16 2008" in the file email.txt. Write Pythonic code to read the file and extract email address from the lines starting from the word "From". Use regular expressions to match email address. 8 Marks in Python

<https://www.py4e.com/html3/11-regex>  
[https://github.com/Kalpesh14m/Python-For-Everybody-Answers/blob/master/2-Python-Data Structure/Assignment/Assignment%202010.2.txt](https://github.com/Kalpesh14m/Python-For-Everybody-Answers/blob/master/2-Python-Data%20Structure/Assignment/Assignment%202010.2.txt)  
[https://eng.libretexts.org/Courses/Delta\\_College/Introduction\\_to\\_Programming\\_Concepts\\_-\\_Python/11%3A\\_Regular\\_Expressions/11.03%3A\\_Extracting\\_data\\_using\\_regular\\_expressions](https://eng.libretexts.org/Courses/Delta_College/Introduction_to_Programming_Concepts_-_Python/11%3A_Regular_Expressions/11.03%3A_Extracting_data_using_regular_expressions)  
<https://books.trinket.io/pfe/08-lists.html>  
[https://www.etsu.edu/cas/math/documents/sstem/python\\_3\\_chapter\\_8\\_lists.pdf](https://www.etsu.edu/cas/math/documents/sstem/python_3_chapter_8_lists.pdf)



31. Write Python program to calculate the Arc Length of an Angle by assigning values to the radius and angle data attributes of the class ArcLength. 7 Marks in Python

<https://www.w3resource.com/python-exercises/math/python-math-exercise-7.php>

<https://www.codespeedy.com/python-program-to-calculate-arc-length-of-an-angle/>

<https://www.geeksforgeeks.org/arc-length-angle/>

<https://www.geeksforgeeks.org/arc-length-formula/>

<https://tutorialspoint.dev/algorithm/geometric-algorithms/arc-length-angle>

"2. Write Python Program to simulate a Bank Account with support for depositMoney

<https://www.geeksforgeeks.org/python-program-to-create-bankaccount-class-with-deposit-withdraw-function/>

<https://webeducllick.com/python-program-create-bank-account-with-deposit-withdraw-money/>

<https://www.codespeedy.com/python-program-to-create-bank-account-class/>

[https://www.vtupulse.com/python-programs/python-program-using-classes-and-objects-to-deposit-and-withdraw-money-in-a-bank account/](https://www.vtupulse.com/python-programs/python-program-using-classes-and-objects-to-deposit-and-withdraw-money-in-a-bank-account/)

<https://www.codevscolor.com/python-bank-account-class>

"3. Given three Points (x1

[https://www.easterscience.com/q10-give-three-points-x1-y1-x2-y2-and-x3-y3-write-a-program-to-check-if-all-the-three-points-fall-on one-straight-line/](https://www.easterscience.com/q10-give-three-points-x1-y1-x2-y2-and-x3-y3-write-a-program-to-check-if-all-the-three-points-fall-on-one-straight-line/)

<https://technotip.com/7151/c-program-to-check-if-three-points-are-on-one-straight-line/>

<https://gist.github.com/LokeshKumarES/1925b4e894b32af91ebfe9510e67634b>

[https://garbagevalue.com/bs/let-us-c-solutions/chapter-3-the-decision-control/c-2/given-three-points-x-1-y-1-x-2-y-2-and-x-3-y-3-write a-program-to-check-if-all-the-three-points](https://garbagevalue.com/bs/let-us-c-solutions/chapter-3-the-decision-control/c-2/given-three-points-x-1-y-1-x-2-y-2-and-x-3-y-3-write-a-program-to-check-if-all-the-three-points)

[https://www.quora.com/Give-three-points-x1-y1-x2-y2-and-x3-y3-write-a-program-to-check-if-all-the-three-points-fall-on-one-straight line](https://www.quora.com/Give-three-points-x1-y1-x2-y2-and-x3-y3-write-a-program-to-check-if-all-the-three-points-fall-on-one-straight-line)

32. Discuss inheritance programming language. Write a Python program to demonstrate the use of super() function. 10 Marks in Python

<https://www.geeksforgeeks.org/python-super/>

<https://www.geeksforgeeks.org/inheritance-in-python/>

[https://www.w3schools.com/python/ref\\_func\\_super.asp](https://www.w3schools.com/python/ref_func_super.asp)

<https://realpython.com/python-super/>

<https://www.programiz.com/python-programming/methods/built-in/super>

33. Program to demonstrate the Overriding of the Base Class method in the Derived Class. 8 Marks in Python

<https://www.geeksforgeeks.org/method-overriding-in-python/>

<https://www.educative.io/answers/how-to-do-method-overriding-in-python>

<https://www.scaler.com/topics/method-overriding-in-python/>

<https://www.studytonight.com/python/method-overriding-in-python>

<https://www.tutorialsandyou.com/python/method-overriding-in-python-29.html>

34. Write Python program to demonstrate Multiple Inheritance. 8 Marks in Python

<https://www.geeksforgeeks.org/multiple-inheritance-in-python/>

<https://www.geeksforgeeks.org/inheritance-in-python/>

<https://www.edureka.co/blog/inheritance-in-python/>

<https://www.programiz.com/python-programming/multiple-inheritance>

<https://www.programiz.com/python-programming/inheritance>

"7. Given the Coordinates (x

[https://www.easterscience.com/q11-given-the-coordinates-x-y-of-center-of-a-circle-and-its-radius-](https://www.easterscience.com/q11-given-the-coordinates-x-y-of-center-of-a-circle-and-its-radius-write-a-program-which-will)

[write-a-program-which-will](https://www.easterscience.com/q11-given-the-coordinates-x-y-of-center-of-a-circle-and-its-radius-write-a-program-which-will) determine-whether-a-point-lies-inside-the-circle-on-the-circle-or-outside-the-circle-hint-use-sqrt/

<https://www.toppr.com/ask/question/write-the-xcoordinates-absicissa-of-each-of-the-given-points735705/>

<https://www.cuemath.com/calculus/x-and-y-coordinates/>

<https://www.mathplanet.com/education/pre-algebra/introducing-algebra/coordinate-system-and-ordered-pairs>

[https://amsi.org.au/teacher\\_modules/Introduction\\_to\\_coordinate\\_geometry.html](https://amsi.org.au/teacher_modules/Introduction_to_coordinate_geometry.html)

35. Write Python Program to Demonstrate Multiple Inheritance with Method

Overriding. 8 Marks in Python

<https://www.geeksforgeeks.org/method-overriding-in-python/>

<https://www.geeksforgeeks.org/multiple-inheritance-in-python/>

<https://data-flair.training/blogs/python-inheritance/>

<https://www.educative.io/answers/how-to-do-method-overriding-in-python>

<https://www.programiz.com/python-programming/inheritance>

"9. Write Pythonic code to overload "+"

<https://www.gowrishankarnath.com/model-question-papers-for-python-programming-course-as-prescribed-for-3rd-semester-computer> science-and-engineering-programme.html

36. Write Pythonic code to create a function named move\_rectangle() that takes an object of Rectangle class and two numbers named dx and dy. It should change the location of the Rectangle by adding dx to the x coordinate of corner and adding dy to the y coordinate of corner in Python

<https://github.com/epequeno/ThinkPy-Solutions/blob/master/ch15/15.02.py>

<https://paigelearnscode.wordpress.com/2015/08/31/day-thirteen/>

<https://www.chegg.com/homework-help/write-function-named-moverectangle-takes-rectangle-two-numbe-chapter-15-problem-2e> solution-9780521725965-exc

<https://www.w3resource.com/python-exercises/class-exercises/python-class-exercise-10.php>

[https://openbookproject.net/thinkcs/python/english3e/classes\\_and\\_objects\\_II.htm](https://openbookproject.net/thinkcs/python/english3e/classes_and_objects_II.htm)