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## Assignment-1

1. Write a Python program to print the following string in a specific format (see the output).

*Sample String :*

"Twinkle, twinkle, little star, How I wonder what you are! Up above the world so high,  
Like a diamond in the sky. Twinkle, twinkle, little star, How I wonder what you are"

*Output :*

```
Twinkle, twinkle, little star,  
    How I wonder what you are!  
        Up above the world so high,  
        Like a diamond in the sky.  
Twinkle, twinkle, little star,  
    How I wonder what you are
```

2. Write a Python program to get the Python version you are using.
3. Write a Python program to display the current date and time.

*Sample Output :*

Current date and time :

2014-07-05 14:34:14

4. Write a Python program which accepts the radius of a circle from the user and compute the area.

*Sample Output :*

r = 1.1

Area = 3.8013271108436504

5. Write a Python program which accepts the user's first and last name and print them in reverse order with a space between them.
6. Write a Python program which accepts a sequence of comma-separated numbers from user and generate a list and a tuple with those numbers.

*Sample data : 3, 5, 7, 23*

*Output :*

List : ['3', '5', '7', '23']

Tuple : ('3', '5', '7', '23')



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7. Write a Python program to accept a filename from the user and print the extension of that.

*Sample filename :* abc.java

*Output :* java

8. Write a Python program to display the first and last colors from the following list.

`color_list = ["Red","Green","White" ,"Black"]`

9. Write a Python program to print the documents (syntax, description etc.) of Python built-in function(s).

*Sample function :* abs()

*Expected Result :*

`abs(number) -> number`

Return the absolute value of the argument.

10. Write a Python program to print the calendar of a given month and year.

*Note :* Use 'calendar' module.

11. Write a Python program to calculate number of days between two dates.

*Sample dates :* (2014, 7, 2), (2014, 7, 11)

*Expected output :* 9 days

12. Write a Python program to get the volume of a sphere with radius 6.

13. Write a Python program to get the difference between a given number and 17, if the number is greater than 17 return double the absolute difference.

14. Write a Python program to test whether a number is within 100 of 1000 or 2000.

15. Write a Python program to calculate the sum of three given numbers, if the values are equal then return three times of their sum.



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16. Write a Python program to get a new string from a given string where "Is" has been added to the front. If the given string already begins with "Is" then return the string unchanged.
  17. Write a Python program to get a string which is n (non-negative integer) copies of a given string.
  18. Write a Python program to find whether a given number (accept from the user) is even or odd, print out an appropriate message to the user.
  19. Write a Python program to count the number 4 in a given list.
  20. Write a Python program to test whether a passed letter is a vowel or not.
  21. Write a Python program to check whether a specified value is contained in a group of values.  
*Test Data :*  
3 -> [1, 5, 8, 3] : True  
-1 -> [1, 5, 8, 3] : False
  22. Write a Python program to create a histogram from a given list of integers.
  23. Write a Python program to concatenate all elements in a list into a string and return it.
  24. Write a Python program to print all even numbers from a given numbers list in the same order and stop the printing if any numbers that come after 237 in the sequence.

***Sample numbers list :***

```
numbers = [  
386, 462, 47, 418, 907, 344, 236, 375, 823, 566, 597, 978, 328, 615, 953, 345,  
399, 162, 758, 219, 918, 237, 412, 566, 826, 248, 866, 950, 626, 949, 687, 217,  
815, 67, 104, 58, 512, 24, 892, 894, 767, 553, 81, 379, 843, 831, 445, 742, 717,
```



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958,743, 527

]

25. Write a Python program to print out a set containing all the colors from color\_list\_1 which are not present in color\_list\_2.

*Test Data :*

```
color_list_1 = set(["White", "Black", "Red"])
```

```
color_list_2 = set(["Red", "Green"])
```

*Expected Output :*

```
{'Black', 'White'}
```

26. Write a Python program to compute the greatest common divisor (GCD) of two positive integers (use loop).

27. Write a Python program to get the least common multiple (LCM) of two positive integers (use loop).

28. Write a Python program that will return true if the two given integer values are equal or their sum or difference is 5.

29. Write a Python program to add two objects if both objects are an integer type.

30. Write a Python program to display your details like name, age, address in three different lines.

31. Write a Python program to solve  $(x + y) * (x + y)$ .

*Test Data : x = 4, y = 3*

*Expected Output :  $(4 + 3) ^ 2 = 49$*

32. Write a Python program to compute the future value of a specified principal amount, rate of interest, and a number of years.



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*Test Data : amt = 10000, int = 3.5, years = 7*

*Expected Output : 12722.79*

33. Write a Python program to compute the distance between the points (x1, y1) and (x2, y2).
34. Write a Python program to check whether a file exists.
35. Write a Python program to determine if a Python shell is executing in 32bit or 64bit mode on OS.
36. Write a Python program to get OS name, platform and release information.
37. Write a Python program to locate Python site-packages.
38. Write a Python program to call an external command.
39. Write a python program to get the path and name of the file that is currently executing.
40. Write a Python program to find out the number of CPUs using.
41. Write a Python program to parse a string to Float or Integer.
42. Write a Python program to list all files in a directory in Python.
43. Write a Python program to print without newline or space.
44. Write a Python program to determine profiling of Python programs.  
Note: A profile is a set of statistics that describes how often and for how long various parts of the program executed. These statistics can be formatted into reports via the pstats



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module.

45. Write a Python program to print to stderr.
46. Write a python program to access environment variables.
47. Write a Python program to get the current username.
48. Write a Python to find local IP addresses using Python's stdlib.
49. Write a Python program to get height and width of the console window.
50. Write a Python program to get execution time for a Python method.
51. Write a Python program to sum of the first n positive integers.
52. Write a Python program to convert height (in feet and inches) to centimeters.
53. Write a Python program to calculate the hypotenuse of a right angled triangle.
54. Write a Python program to convert the distance (in feet) to inches, yards, and miles.
55. Write a Python program to convert all units of time into seconds.
56. Write a Python program to get an absolute file path.
57. Write a Python program to get file creation and modification date/times.
58. Write a Python program to convert seconds to day, hour, minutes and seconds.



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59. Write a Python program to calculate body mass index.
  60. Write a Python program to convert pressure in kilopascals to pounds per square inch, a millimeter of mercury (mmHg) and atmosphere pressure.
  61. Write a Python program to calculate sum of digits of a number.
  62. Write a Python program to sort three integers without using conditional statements and loops.
  63. Write a Python program to sort files by date.
  64. Write a Python program to get a directory listing, sorted by creation date.
  65. Write a Python program to get the details of math module.
  66. Write a Python program to calculate midpoints of a line.
  67. Write a Python program to hash a word.
  68. Write a Python program to get the copyright information and write Copyright information in Python code.
  69. Write a Python program to get the command-line arguments (name of the script, the number of arguments, arguments) passed to a script.
  70. Write a Python program to test whether the system is a big-endian platform or little-endian platform.
  71. Write a Python program to find the available built-in modules.



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72. Write a Python program to get the size of an object in bytes.
  73. Write a Python program to get the current value of the recursion limit.
  74. Write a Python program to concatenate N strings.
  75. Write a Python program to calculate the sum of all items of a container (tuple, list, set, dictionary).
  76. Write a Python program to test whether all numbers of a list is greater than a certain number.
  77. Write a Python program to count the number occurrence of a specific character in a string.
  78. Write a Python program to check whether a file path is a file or a directory.
  79. Write a Python program to get the ASCII value of a character.
  80. Write a Python program to get the size of a file.
  81. Given variables x=30 and y=20, write a Python program to print "30+20=50".
  82. Write a Python program to perform an action if a condition is true.  
Given a variable name, if the value is 1, display the string "First day of a Month!" and do nothing if the value is not equal.
  83. Write a Python program to create a copy of its own source code.
  84. Write a Python program to swap two variables.





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**85.** Write a Python program to define a string containing special characters in various forms.

**86.** Write a Python program to get the Identity, Type, and Value of an object.

**87.** Write a Python program to convert a byte string to a list of integers.

**88.** Write a Python program to check whether a string is numeric.

**89.** Write a Python program to print the current call stack.

**90.** Write a Python program to list the special variables used within the language.

**91.** Write a Python program to get the system time.

1. Note : The system time is important for debugging, network information, random number seeds, or something as simple as program performance.

**92.** Write a Python program to clear the screen or terminal.

**93.** Write a Python program to get the name of the host on which the routine is running.

**94.** Write a Python program to access and print a URL's content to the console.

**95.** Write a Python program to get system command output.

**96.** Write a Python program to extract the filename from a given path.

**97.** Write a Python program to get the effective group id, effective user id, real group id, a list of supplemental group ids associated with the current process.

Note: Availability: Unix.



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98. Write a Python program to get the users environment.
  99. Write a Python program to divide a path on the extension separator.
  100. Write a Python program to retrieve file properties.
  101. Write a Python program to find path refers to a file or directory when you encounter a path name.
  102. Write a Python program to check if a number is positive, negative or zero.
  103. Write a Python program to get numbers divisible by fifteen from a list using an anonymous function.
  104. Write a Python program to make file lists from current directory using a wildcard.
  105. Write a Python program to remove the first item from a specified list.
  106. Write a Python program to input a number, if it is not a number generates an error message.
  107. Write a Python program to filter the positive numbers from a list.
  108. Write a Python program to compute the product of a list of integers (without using for loop).
  109. Write a Python program to print Unicode characters.



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110. Write a Python program to prove that two string variables of same value point same memory location.
111. Write a Python program to create a bytearray from a list.
112. Write a Python program to round a floating-point number to specified number decimal places.
113. Write a Python program to format a specified string limiting the length of a string.
114. Write a Python program to determine whether variable is defined or not.
115. Write a Python program to empty a variable without destroying it.
2. Sample data: n=20  
d = {"x":200}  
Expected Output : 0  
{}
- 3.
116. Write a Python program to determine the largest and smallest integers, longs, floats.
117. Write a Python program to check whether multiple variables have the same value.
118. Write a Python program to sum of all counts in a collections.
119. Write a Python program to get the actual module object for a given object.
120. Write a Python program to check whether an integer fits in 64 bits.



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121. Write a Python program to check whether lowercase letters exist in a string.
  122. Write a Python program to add leading zeroes to a string.
  123. Write a Python program to use double quotes to display strings.
  124. Write a Python program to split a variable length string into variables.
  125. Write a Python program to list home directory without absolute path.
  126. Write a Python program to calculate the time runs (difference between start and current time) of a program.
  127. Write a Python program to input two integers in a single line.
  128. Write a Python program to print a variable without spaces between values.  
Sample value : x =30  
Expected output : Value of x is "30"
  129. Write a Python program to find files and skip directories of a given directory.
  130. Write a Python program to extract single key-value pair of a dictionary in variables.
  131. Write a Python program to valid a IP address.
  132. Write a Python program to convert an integer to binary keep leading zeros.  
Sample data : x=12  
Expected output : 00001100  
0000001100



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- 133.** Write a Python program to check if every consecutive sequence of zeroes is followed by a consecutive sequence of ones of same length in a given string. Return True/False.
- Original sequence: 01010101
- Check if every consecutive sequence of zeroes is followed by a consecutive sequence of ones in the said string:
- True
- Original sequence: 00
- Check if every consecutive sequence of zeroes is followed by a consecutive sequence of ones in the said string:
- False
- Original sequence: 000111000111
- Check if every consecutive sequence of zeroes is followed by a consecutive sequence of ones in the said string:
- True
- Original sequence: 00011100011
- Check if every consecutive sequence of zeroes is followed by a consecutive sequence of ones in the said string:
- False
- 134.** Write a Python program to determine if the python shell is executing in 32bit or 64bit mode on operating system.
- 135.** Write a Python program to find the location of Python module sources.
- 136.** Write a Python function to check whether a number is divisible by another number. Accept two integers values form the user.
- 137.** Write a Python function to find the maximum and minimum numbers from a sequence of numbers.



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Note: Do not use built-in functions.

- 138.** Write a Python function that takes a positive integer and returns the sum of the cube of all the positive integers smaller than the specified number.
- 139.** Write a Python function to check whether a distinct pair of numbers whose product is odd present in a sequence of integer values.