



# ACADEMIC WORLD SCHOOL™

BEMETARA

SUMMER VACATION ASSIGNMENT

SESSION 2020-21

CLASS: XII

## SUBJECT- COMPUTER SCIENCE

### General Instructions

(i) Complete the Assignment in the separate Notebook.

### UNIT-3 FUNCTION

1. Find the errors in following function definitions :

```
(a) def main( )  
    print ("hello")
```

```
(b) def func2() :  
    print (2 + 3)
```

```
(c) def compute( ) :  
    print (x * x)
```

```
(d) square (a)  
    .....return a * a.....
```

2. What all information does a function header give you about the function?
3. What is the difference between local and global variable?
4. Can a function returns multiple values? How?
5. Write a program with a function that takes an integer and prints the number that follows after it.
6. When is global statement used ? Why is its use not recommended ?
7. Write a program to calculate factorial of given number using function.
8. Write a function that takes amount-in-dollars and dollar-to-rupee conversion price; it then returns the amount converted to rupees. Create the function in both void and non-void forms.

9. Write a function that receives two string arguments and checks whether they are same-length strings (returns True in this case otherwise false).
10. Write a function that takes a number n and then returns a randomly generated number having exactly n digits (not starting with zero) e.g., if n is 2 then function can randomly return a number 10-99 but 07, 02 etc. are not valid two digit numbers.
11. Write a program that generates a series using a function which takes first and last values of the series and then generates four terms that are equidistant e.g., if two numbers passed are 1 and 7 then function returns 1 3 5 7.
12. What is a recursive function? Write one advantage of recursive functions.
13. What are the two cases required in a recursion function?
14. Is it necessary to have a base case in a recursive function? Why/Why not?
15. Why are recursive functions considered slower than their iterative counter parts ?
16. Write a recursive function to find number in a list using Binary Search technique.
17. One foot equals 12 inches. Write a function that accepts a length written in feet as an argument and returns this length written in inches. Write a second function that asks the user for a number of feet and returns this value. Write a third function that accepts a number of inches and displays this to the screen. Use these three functions to write a program that asks the user for a number of feet and tells them the corresponding number of inches.
18. Write a program that reads a date as an integer in the format MMDDYYYY. The program will call a function that prints print out the date in the format.

### **UNIT-1 REVISION TOUR**

19. What is the internal structure of python string?
20. What are the two ways to add something to a list? How are they different?
21. What is the difference between (30) and (30,)?
22. Dictionary is a mutable type, which means you can modify its contents? What all is modifiable in a dictionary? Can you modify the keys of a dictionary?
23. Write a program that prompts for a phone number of 10 digits and two dashes, with dashes after the area code and the next three numbers. For example, 017-555-1212 is a legal input. Display if the phone number entered is valid format or not and display if the phone number is valid or not (i.e., contains just the digits and dash at specific places).
24. Write a Python program that creates a tuple storing first 9 terms of Fibonacci series.
25. Create a dictionary whose keys are month names, and whose values are the number of days in the corresponding months.
26. How is del D and del D[key] different from one another if D is a dictionary ?

27. What are immutable and mutable types? List immutable and mutable types of Python.
28. What is the difference between implicit type conversion and explicit type conversion?
29. Write a short Python code segment that prints the longest word in a list of words.
30. Start with the list [8, 9, 10]. Do the following :
  - (a) Set the second index entry ( index 1) to 17
  - (b) Add 4,5,6 at the end of the list.
  - (c) Remove the first entry from the list.