Training Exercise

Exercise – 1

1. Create a Integer Variable and convert it to Float, Boolean, String.

2. Create a Float Variable and convert it to Integer, Boolean and String.

3. Create a Boolean Variable and convert it to Integer, Float and String.

4. Create a String Variable and convert it to Integer, Float and Boolean

5. Find out values in String, Integer and Float when converting to Boolean it gives False

6. Perform operations with all the Arithmetic Operators

7. Perform operations with all the Bitwise Operators

8. Perform operations with all the Relational Operators

9. Perform operations with all the Logical Operators

10. Create a python script/program that will take input from the user for 3 numbers and result will print the biggest number and the smallest number using 'input' and 'print'.

11. Create another script/program using 'input' and pass all the three parameters as a single input and execute the same program as mentioned above.

12. Print odd numbers between 1 to 10 in reverse order using while.

13. Perform the same operation with for loop.

14. Print odd numbers between 1 to 10 using continue in both for and while loop.

15. Take 10 numbers in a list(array) and print only first 3 numbers using loop.

16. Write a function with recursion to give the factorial of a number.

17. Create a script/program that will take arguments as 1,2,3,4,5, or 6 and will also take operands as arguments based on the selection made it will perform the operation and print the result.

- 1=Addition, 2=Subtraction, 3=Multiplication, 4=Division, 5=Exponent, 6=Floor Division. If anything else is passed it should say Invalid argument.
- Create a parent function which will accept the options and based on the options it will call nested functions for each operation. So total 7 functions will be created one parent and 6 nested functions.
- According to the selection made take inputs for the operations. If 1,2,3 are selected take 3 inputs as operands and if 4,5,6 are selected take 2 inputs as operands. Perform the operation and print the result.

18. Create a two funcitons. Call one function from another function.

19. Create a function that will take 5 arguments 2 will be mandatory and 3 will be keyword parameters. If 2 parameters are passed perform multiplication of 2 parameters. If 3 parameters are passed print all the 3 parameters. If 4 parameters are passed addition of 4 parameters. If 5 parameters are passed multiply 2 mandatory parameters and then separately multiply 3 keyword parameters and add both of them.

20. Define a class and define two member variables and two methods inside the class. One method will have one parameter and other method will not have any parameter. Create a constructor for the class accepting two parameters and assign them to the class member variables. One of the two methods will perform an operation on the member variables and give result. The second method will print the result.

21. Create a parent class and a child class. Create two methods in the parent class. Create one method in the child class. Create an object of parent and try to access the method of parent and child class. Create an object of child class and try to access the method of parent and child class.

22. Create a constructor and destructor for the above class.

23. Override and Overwrite a method of the parent class in child class.

24. Implement multiple inheritance and multi-level inheritance.

25. Perform overloading for constructors and methods defined in the class.

26. Define a class(my_parent_class) with 2 variables x,y and 3 methods. add, sub and print_result. Define a child class and override the methods and constructor as given below.

=> Parent Class:

- The methods add,sub will have two params which will be 2 default parameters and print_result will not have any params.
- Create a constructor for this class with 2 default parameters, if the values are passed in the object assign those values to the new 2 member variables(a,b) else assign the values which are already there in the existing member variables(x,y) to new 2 member variables(a,b).
- Define the methods add and sub which will perform the operation of addition and subtraction respectively store the values in two new member variables (res1,res2) and call the method print_result. The print_result method will print these two member variables(res1,res2).
- Create three objects, one with no values passed, one with single value passed and one with two value passed.

=> Child Class:

- Inherit the parent class(my_parent_class) in a child class(my_child_class) and override the constructor to have an additional parameter which will be again a default parameter assigning the value to the child member variable(z).
- Override add() method which will call the parent class add method using two variable but the print_result() method should print the addition of the 3 member variables(x,y,z) instead of two(x,y) without inheriting the print_result() method.
- Override the sub() method to perform multiplication operation of three member variables(x,y,z) instead of subtraction of two member variables(x,y)
- Override a destructor to show when it is being called automatically and when it would be called manually by our code.