CLASS: BCA – III EXAM SEAT NO. [ ]

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE, KOLHAPUR.

Department of Bachelor of Computer Application

CERTIFICATE

(Lab Course Based On Python Programming)

This is to certify that Shri / Miss._____

Class_____Roll No._____Exam Seat No. _____has completed the required practical work satisfactory during Nov 2023 to Dec 2023 in the academic year 2023 - 2024.

Date: / / 2023.

1)_____ 1) _____

Teacher In charge Examiner

HOD of BCA
Vivekanand College, Kolhapur.

2) _____ 2) _____

Teacher In charge Examiner

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE (AUTONOMOUS), KOLHAPUR.

Department of Bachelor of Computer Application

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Class: BCA - III **YEAR: 2023 – 2024.** **Roll No.**

LAB COURSE BASED ON Python Programming

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3	Write Python program to display multiplication table of any number.			
4	Write Python program to Find the Factorial of a given number.			
5	Write Python program to reverse the given number using while loop.			
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7	Write Python program to check the given string is palindrome or not .			
8	Write Python program to do following operations on string: create, indexing, slicing, upper, lower, compare			
9	Write Python program to create a python List and do following operations on List: append (), extend (), insert (), remove (), reverse (), len (), min () & max (), sort () .			
10	Write Python program to create a python Tuple and do following operations on tuple: Concatenation, Repetition, Membership.			

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Q1. Write Python program to do arithmetical operations such as Addition, Subtraction, Multiplication and Division

```
#Arithmatic Operations
# Here, we are storing the first input numbers in num1
num1 =int( input('Enter first number: ') )
# Here, we are storing the second input numbers in num2
num2 =int( input('Enter second number: '))
# Here, we are printing the sum of the given two numbers
sum = num1 + num2
print('The sum of two Numbers=',sum)
# Here, we are printing the subtraction of the given two numbers
sub = num1 - num2
print('The subtraction of two Numbers=',sub)
# Here, we are printing the multiplication of the given two numbers
mul = num1 * num2
print('The Multiplication of two Numbers=',mul)
# Here, we are printing the division of the given two numbers
div = num1 / num2
print('The Division of two Numbers=',div)
```

Output:

```
Enter first number: 12
Enter second number: 4
The sum of two Numbers= 16
The subtraction of two Numbers= 8
The Multiplication of two Numbers= 48
The Division of two Numbers= 3.0
```

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Q2. Write Python program to display greatest number among three numbers.

```
# input three integer numbers
a=int(input("Enter A: "))
b=int(input("Enter B: "))
c=int(input("Enter C: "))

# conditions to find largest
if a>b:
    if a>c:
        print("A is Greater")
    else:
        print("C is Greater")
else:
    if b>c:
        print("B is Greater")
    else:
        print("C is Greater")
```

Output:

```
Enter A: 34
Enter B: 456
Enter C: 23
B is Greater
```

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Q3. Write Python program to display multiplication table of any number.

```
n = int(input ("Enter the number to print the multiplication table: "))
i = 1
# we are using while loop for iterating the multiplication 10 times
print ("The Multiplication Table of: ", n)
while i <= 10:
    number = n * i
    print(n," * ",i," = ",number)
    i = i + 1
```

output:

```
Enter the number to print the multiplication table: 21
The Multiplication Table of:  21
21  *  1  =  21
21  *  2  =  42
21  *  3  =  63
21  *  4  =  84
21  *  5  =  105
21  *  6  =  126
21  *  7  =  147
21  *  8  =  168
21  *  9  =  189
21  *  10  =  210
```

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Q4. Write Python program to Find the Factorial of a given number.

```
num = int(input("Enter a number: "))
factorial = 1
if num < 0:
   print(" Factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   for i in range(1,num + 1):
       factorial = factorial*i
   print("The factorial of",num,"is",factorial)
```

Outputs:

Enter a number: 0

The factorial of 0 is 1

Enter a number: -1

Factorial does not exist for negative numbers

Enter a number: 7

The factorial of 7 is 5040

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Q5. Write Python program to reverse the given number using while loop.

```
n=int(input("Enter number:"))
temp=n
rev=0
while(n>0):
    dig=n%10
    rev=rev*10+dig
    n=n//10
print("The reverse number is:",rev)
```

output:

Enter number:12345

The reverse number is: 54321

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Q6. Write Python program to generate Fibonacci series up to the given range using function.

```
#Fibonacci Series
def fib(n):
    a = 0
    b = 1
    if n == 1:
        print(a)
    else:
        print(a)
        print(b)
        for i in range(2,n):
            c = a + b
            a = b
            b = c
            print(c)

N=int(input ("Enter the range:"))
fib(N)
```

Output:

```
Enter the range: 8
0
1
1
2
3
5
8
13
```

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Q7. Write Python program to check the given string is palindrome or not .

```
#Enter input string
string =input("Enter string :")

#Declare an empty string variable
revstr = ""

#Iterate string with for loop
for i in string:
   revstr = i + revstr
print("Reversed string : ", revstr)

if(string == revstr):
   print("The string is a palindrome.")
else:
   print("The string is not a palindrome.")
```

output:

```
Enter string: madam
Reversed string: madam
The string is a palindrome.
```

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Q8. Write Python program to do following operations on string: create, indexing, slicing, upper, lower, compare

```
# creating string
#Using single quotes
str1 = 'Hello Python'
print(str1)
#Using double quotes
str2 = "Hello Python"
print(str2)
#Using triple quotes
str3 = """Triple quotes are generally used for
    represent the multiline or
    docstring"'
print(str3)
```

output:

```
Hello Python
Hello Python
Triple quotes are generally used for
    represent the multiline or
    docstring
```

```
#indexing
str = "HELLO"
print(str[0])
print(str[1])
print(str[2])
print(str[3])
print(str[4])
print(str[6])
```

output:

H

E

L

L

O

IndexError: string index out of range

#slicing

```
# Given String
str = "PYTHON"
# Start Oth index to end
print(str[0:])
# Starts 1th index to 4th index
print(str[1:5])
# Starts 2nd index to 3rd index
print(str[2:4])
# Starts 0th to 2nd index
print(str[:3])
#Starts 4th to 6th index
print(str[4:7])
```

output:

PYTHON

YTHO

TH

PYT

ON

```
# given string
str = 'PYTHON'
print(str[-1])
print(str[-3])
print(str[-2:])
print(str[-4:-1])
print(str[-7:-2])
# Reversing the given string
print(str[::-1])
```

output:

```
N
H
ON
THO
PYTH
NOHTYP
```

 # Compare Two Strings

```
str1 = "Hello, world!"
str2 = "I love Python."
str3 = "Hello, world!"
# compare str1 and str2
print(str1 = = str2)
# compare str1 and str3
print(str1 = = str3)
```

output:

```
False
True
```

 # Concatenate two strings

```
A = "Hello, "
name = "Python"

# using + operator
result = A + name
print(result)
```

output

Hello, Python

Python String upper ( )

```
message = 'python is programming language'
# convert message to uppercase
print(message.upper())
```

Output:

PYTHON IS PROGRAMMING LANGUAGE

Python String lower ( )

```
message = ‘PYTHON IS PROGRAMMING LANGUAGE’
# convert message to lowercase
print(message.lower())
```

Output:

python is programming language

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Q9. Write Python program to create a python List and do following operations on List: append (), extend (), insert (), remove (), reverse (), len (), min () & max (), sort ()

#Creating an list

```
my_list = [1,2,3,4]
#print list
print(my_list)
```

Output:

[1, 2, 3, 4]

#append list

```
my_list=[1,2,3,4]
my_list.append(9)
my_list.append(8)
print("The list after append() operation is: ",my_list)
```

output

The list after append() operation is: [1, 2, 3, 4, 9, 8]

#extend List

```
my_list=[1,2,3,4,9,8]
my_list.extend([20,21])
print("The list after extend() operator is: ",my_list)
```

output:

The list after extend() operator is: [1, 2, 3, 4, 9, 8, 20, 21]

#insert elements in List

```
my_list=[1,2,3,4,9,8]
my_list.insert(5,30)
print("The list after insert() operator is: \n",my_list)
```

output:

The list after insert() operator is:

[1, 2, 3, 4, 9, 30, 8]

#remove elements in List

```
my_list=[12,3,5,11,10]
my_list.remove(10)
print("The list after remove() operator is: \n",my_list)
```

output:

```
The list after remove() operator is:
 [12, 3, 5, 11]
```

#reverse list

```
list = ["cpp", "java”, "vb,net", "python"]
list.reverse() #Reverse Function implemented
print(list)
```

output:

```
['python', 'vb,net', 'java', 'cpp']
```

#min, max, length of list

```
my_list=[1,3,6,45,9,67]
print("Length of the list is: ",len(my_list))
print("Maximum element in the list is: ",max(my_list))
print("Minimum element in the list is: ",min(my_list))
```

output:

```
Length of the list is:  6
Maximum element in the list is: 67
Minimum element in the list is:  1
```

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Q10. Write Python program to create a python Tuple and do following operations ontuple: Concatenation, Repetition, Membership.

```
# creating a tuple in the following ways
T1 = () #empty tuple
T2 = (10, 30, 20, 40, 60)
T3 = ("C", "Java", "Python")
T4 = (501,"abc", 19.5)
T5 = (90,)
print(T1)
print(T2)
print(T3)
print(T4)
print(T5)
```

output:

```
()
(10, 30, 20, 40, 60)
('C', 'Java', 'Python')
(501, 'abc', 19.5)
(90,)
```

 # Concatenation operation on tuples

```
T1=(1,2,3,4,5)
T2=('python','c','java','php')
print(T1+T2)
```

output:

```
(1, 2, 3, 4, 5, 'python', 'c', 'java', 'php')
```

 # Repetition operation on tuple

```
T1=(1,2,3,4,5)
print(T1*2)
```

Output:

(1, 2, 3, 4, 5, 1, 2, 3, 4, 5)

 # Membership operation on tuple

```
T1=(1,2,3,4,5)
T2=('python','c','java','php')
print('cpp' in T2)
print(6 not in T1)
```

output:

True

True