**Day 1 - session 2**

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| **Day** | **Portions/ Activities** | **Duration** |
| Day1 -15.6.20 | Iteration & Strings – Worked out examples and Exercises | 1 hour |

**Examples programs**

**Copy and Paste the following progams in Jupyter notebook and execute them** **with complete realization**

**#Python Program to find the factorial of a number using loop.**

n=int(input("Enter number:"))

fact=1

while(n>0):

fact=fact\*n

n=n-1

print("Factorial of the number is: ")

print(fact)

**#Python Program to reverse a number using loop**

r=0

n=int(input("Enter a number: "))

while(n>0):

dig=n%10

r=r\*10+dig

n=n//10

print("The reversed no is:")

print(r)

**#Write a Python program to construct the following pattern, using a nested for loop.**

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\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

\* \* \* \*

\* \* \*

\* \*

\*

n=5;

for i in range(n):

for j in range(i):

print ('\* ', end="")

print('')

for i in range(n,0,-1):

for j in range(i):

print('\* ', end="")

print('')

**#Python Program to replace all occurrences of ‘a’ with ‘$’ in a string.**

string=input("Enter string:")

string=string.replace('a','$')

string=string.replace('A','$')

print("Modified string:")

print(string)

**#Python Program to remove the nth index character from a non-empty string.**

def remove(string, n):

first = string[:n]

last = string[n+1:]

return first + last

string=input("Enter the sring:")

n=int(input("Enter the index of the character to remove:"))

print("Modified string:")

print(remove(string, n))

**#Python Program to detect if two strings are anagrams.**

s1=input("Enter first string:")

s2=input("Enter second string:")

if(sorted(s1)==sorted(s2)):

print("The strings are anagrams.")

else:

print("The strings aren't anagrams.")

**#Python Program to form a string where the first character and the last character have been exchanged.**

def change(string):

return string[-1:] + string[1:-1] + string[:1]

string=input("Enter string:")

print("Modified string:")

print(change(string))

**#Python Program to count number of vowels from a non-empty string.**

string=input("Enter string:")

vowels=0

for i in string:

if(i=='a' or i=='e' or i=='i' or i=='o' or i=='u' or i=='A' or i=='E' or i=='I' or i=='O' or i=='U'):

vowels=vowels+1

print("Number of vowels are:")

print(vowels)

**#Program for Divide by zero error detection**

flag = True

def div(a, b):

try:

print("Finally the division of %d/%d is %f" % (a, b,a/b))

global flag

flag=False

except ZeroDivisionError:

print("Zero Division Error detected")

else:

print("Division is successful")

finally:

if flag is True:

print("Try again")

else:

print("Thank you")

#global flag

while flag is True:

div(int(input("Enter numerator")),int(input("Enter denominator")))

**I/p and o/p**

Enter numerator6

Enter denominator0

Zero Division Error detected

Try again

Enter numerator7

Enter denominator0

Zero Division Error detected

Try again

Enter numerator5

Enter denominator6

Finally the division of 5/6 is 0.833333

Division is successful

Thank you

**#Program for ValueError error detection**

while True:

try:

x = int(input("Please enter a number: "))

print(" That was valid number. Thank you")

break

except ValueError:

print("Oops! That was no valid number. Try again...")

**#Program for writing and reading a file**

fo = open("foo.txt", "w")

print ("Name of the file: ", fo.name)

fo.write("Python is a great language Yeah it is really a great language!")

# Close opend file

fo.close()

fo = open("foo.txt", "r")

str1=fo.readline()

print ("Read String is :",str1)

# Close opend file

fo.close()

**#Program for writing, reading and appending in a file**

fo = open("foo.txt", "w")

print ("Name of the file: ", fo.name)

fo.write("Python is a great language!")

# Close opend file

fo.close()

fo = open("foo.txt", "r")

str1=fo.readline()

print ("Read String is :",str1)

fo = open("foo.txt", "a")

fo.write("Python is a short and sharp language!")

# Close opend file

fo.close()

fo = open("foo.txt", "r")

str1=fo.readline()

print ("Read String is :",str1)

# Close opend file

fo.close()

**Exercises**

**Do the following exercises in Jupyter notebook and get o/p verified**

**1 Write a program to print the triangle**

i/p 4

1

2 3

3 4 5

4 5 6 7

**2 Enter number 4**

\*

\* \*

\* \* \*

\* \* \* \*

**3 Enter number 5**

5

4 5

3 4 5

2 3 4 5

1 2 3 4 5

4 **Enter number 5**

5 4 3 2 1

4 3 2 1

3 2 1

2 1

1

**5 Enter number 4**

1 2 3 4

2 3 4

3 4

4

3 4

2 3 4

1 2 3 4

**6 Find the length of a string without using len functions**

**7 Find the no of words and characters in a string**

**8 Find the no of occurrences of a word in a string**