Computer Science

Practical Manual

For

Slow Learners

(Ex no. 1 to 5)

12

Name:

Class:

School:

Prepared By

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PY1(a) - Calculate Factorial

1(a) Write a program to calculate the factorial of the given number using for loop

Coding:

```
num=int(input("Enter the number:"))
fact=1
for i in range(1,num+1):
    if num==0:
        fact=1
    else:
        fact=fact*i
print("Factorial of given number is =",fact)
```

Output:

```
Enter the number:5
Factorial of given number is = 120
```

PY1(b) - Sum of Series

1(b) Write a program to sum the series:1/1 + 22/2 + 33/3 + ……. nn/n

Coding:

```
num=int(input("Enter the number: "))
sum=0
for i in range(1,num+1):
    a=(i**i)/i
    sum=sum+a
print("The sum of the given series is =",sum)
```

Output:

```
Enter the number: 5
The sum of the given series is = 701.0
```

PY2(a) - Odd or Even

2 (a) Write a program using functions to check whether a number is even or odd

Coding:

```
def oddeven(a):
    if(a%2==0):
        return 1
    else:
        return 0
num=int(input("enter the number:"))
if(oddeven(num)==1):
    print("the given number is even")
else:
    print("the given number is odd")
```

Output:

```
enter the number:5
the given number is odd
```

```
enter the number:6
the given number is even
```

PY2(b) - Reverse the String

2(b) Write a program to create a mirror of the given string. For example, "wel" = "lew"

Coding:

```
def rev(str1):
    str2=' '
    i=len(str1)-1
    while i>=0:
        str2+=str1[i]
        i-=1
    return str2
word=input("\n enter a string:")
print("\n the mirror image of the given string is:",rev(word))
```

Output:

```
Enter a string:apple
The mirror image of the given string is:  elppa
```

PY3 – Generate values and remove odd numbers

3 Write a program to generate values from 1 to 10 and then remove all the odd numbers from the list

Coding:

```
num=[]
for i in range(1,11):
    num.append(i)
print("Before removing odd numbers:",num)
for j,i  in enumerate(num):
    if i%2==1:
        del num[j]
print("After removing odd numbers:",num)
```

Output:

```
Before removing odd numbers: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
After removing odd numbers: [2, 4, 6, 8, 10]
```

PY4 – Generate Prime numbers and Set Operations

4. Write a Program that generates a set of prime numbers and another set of odd numbers. Display the result of union, intersection, difference and symmetric difference operations

Coding:

```
odd=set([x*2+1 for x in range(0,5)])
primes=set()
for i in range(2,10):
    j=2
    f=0
    while j<=i/2:
        if i%j==0:
            f=1
        j+=1
    if f==0:
        primes.add(i)
print("Odd numbers: ",odd)
print("Prime numbers: ",primes)
print("Union",odd.union(primes))
print("Intersection",odd.intersection(primes))
print("Difference",odd.difference(primes))
print("Symmetric Difference",odd.symmetric_difference(primes))
```

Output:

```
Odd numbers:  {1, 3, 5, 7, 9}
Prime numbers:  {2, 3, 5, 7}
Union {1, 2, 3, 5, 7, 9}
Intersection {3, 5, 7}
Difference {1, 9}
Symmetric Difference {1, 2, 9}
```

PY5 – Display sting elements – Using Class

5. Write a program to accept a string and print the number of uppercase, lowercase, vowels, consonants and spaces in the given string using Class

Coding:

```
class String:
    def __init__(self):
        self.uc=0
        self.lc=0
        self.vow=0
        self.con=0
        self.spa=0
    def getstr(self):
        self.str1=input("Enter the string:")
    def upper(self):
        for i in self.str1:
            if(i.isupper()):
                self.uc+=1
    def lower(self):
        for i in self.str1:
            if(i.islower()):
                self.lc+=1
    def vowels(self):
        for i in self.str1:
            if(i in('a','A','e','E','o','O','i','I','u','U')):
                self.vow+=1
    def cons(self):
        for i in self.str1:
            if(i not in('a','A','e','E','o','O','i','I','u','U',' ')):
                self.con+=1
    def space(self):
        for i in self.str1:
            if(i==' '):
                self.spa+=1
    def execute(self):
        self.upper()
        self.lower()
        self.vowels()
        self.cons()
        self.space()
```

```
    def display(self):
        print("No. Upper cases",self.uc)
        print("No. Lower cases",self.lc)
        print("No. Vowels",self.vow)
        print("No of consonants",self.con)
        print("No.of spaces",self.spa)
S=String()
S.getstr()
S.execute()
S.display()
```

Output:

```
Enter the string:Welcome to Python
No. Upper cases 2
No. Lower cases 13
No. Vowels 5
No of consonants 10
No.of spaces 2
```