a]

enter a number: 6

factorial of 6 is 720

running time is: 0.007679

b]

odd no. count: 5

even no. count: 5

EXPERIMENT : No. 1 Practical - 1

Page No.
Date

Aim: Analysing rate of growth of algorithm and case analysis

a] Write a program to print factorial of a number

```
import timeit
result = 1
i = 1
a = int(input("enter a number:"))
while i<=a:
    result *= i
    i += 1
print("Factorial of", a, "is", result)
print("running time is:", timeit.timeit())
```

b] Write a program to print odd and even count from an array

```
a = [1, -3, 89, -6, -8, 3, 44, 5, 66, -90]
even_value = 0
odd_value = 0
for i in a:
    if i%2 == 0:
        even_value += 1
    else:
        odd_value += 1
print("odd no. count:", odd_value)
print("even no. count:", even_value)
```

Sundaram

Teacher's Sign. :

] > a]

the maximum valu is : 89

the minimum value is : -67

ruming time : 0.0076658

] > b]

the maximum value is : 89

the running time is : 0.013385

the minimum value is : -67

the running time is : 0.0114377

EXPERIMENT : No.

Page No.
Date

c] Handling 1D array

1) finding maximum and minimum element into an array

a] import timeit
# method1 : By using built-in method max & min
x = [1, -9, -7, 6, 8, 44, -56, -67, 89]
print ("the maximum value is :", max(x))
print ("the minimum value is :", min(x))
print ("running time :", timeit.timeit())

b] import timeit
#method 2
x = [1, -9, -7, 6, 8, 44, -56, -67, 89]
maximum = x[0]
i = 1
while i < len(x):
    if x[i] > maximum:
        maximum = x[i]
    i += 1
print ("the maximum value is :", maximum)
print ("the running time is :", timeit.timeit())
minimum = x[0]
i = 1
while i < len(x):
    if x[i] < minimum:
        minimum = x[i]
    i += 1
print ("the minimum value is :", minimum)
print ("the running time is :", timeit.timeit())

Sundaram

Teacher's Sign. :

2) a]

enter search element: 66
66 is present
running time: 0.01322

b]

enter search element: 66
66 is present
running time: 0.0145011

EXPERIMENT : No.

Page No.
Date

2) Searching an element in an array

a]
```
import timeit
# method 1
a=[66,123,0,-45,53,111]
found = False
search = int(input("enter search element:"))
for data in a or not found:
        if data == search:
                found = True
                break
if found == True:
        print(search," is present")
else:
        print(search," is not present")
print("running time:", timeit.timeit())
```

b]
```
#method 2
a=[66,123,0,-45,53,111]
search = int(input("enter search element:"))
x = a.count(search)
if x==0:
    print(search," is not present")
else:
    print(search," is present")
print("running time:", timeit.timeit())
```


Teacher's Sign. :

c]

enter search element : 66
Search is successful
running time: 0.01476105

EXPERIMENT : No.

Page No.
Date

c]
```
#method 3
import timeit
a = [66,123,0,-45,53,11]
search = int(input("enter search value:"))
x = len(a)
for i in range(0,x):
        if a[i] == search:
                print("search is successful")
print("running time:", timeit.timeit())
```