ASSESSMENT II

NAME: DERIN ALDRINA JOHAN D

ROLL.NO: 191109007

CLASS: II BSc CHEMISTRY(AIDED)

1. a)

In [1]:

```
import math
print(math.sin(math.pi/3))
print(math.tan(math.pi/3))
print(math.cos(math.pi/6))
```

```
0.8660254037844386
1.7320508075688767
0.8660254037844387
```

b)

In [10]:

```
def myfunc(x,y):
    return lambda x,y:x+y
adder=lambda x,y:x+y
print(adder(1,2))
```

```
3
```

c)

In [18]:

```
def fdsum(n):
    sum=0
    x=1
    while x <=n :
        sum = sum + x
        x = x+1
    return sum
n=int(input("Enter a natural number, n: "))
print("Sum of first n i.e.,",n,"natural numbers",fdsum(n))
```

```
Enter a natural number, n: 6
Sum of first n i.e., 6 natural numbers 21
```

2. a)

In [25]:

```
from statistics import mean
def myMean(my_list):
   return mean(my_list)
my_list=[3.5,7.3,9.4,6.6,3.2,8.3]
average= myMean(my_list)
print("Original list: ",my_list)
print("Mean of the list: ",average)
```

```
Original list:  [3.5, 7.3, 9.4, 6.6, 3.2, 8.3]
Mean of the list:  6.383333333333334
```

b)

In [27]:

```
def myname(fname,lname):
   return fname + lname
fname=input("Enter your first name: ")
lname=input("Enter your last name: ")
print("My Name is ",myname(fname,lname))
```

```
Enter your first name: Derin
Enter your last name: Aldrina
My Name is  DerinAldrina
```

3.

In [30]:

```
def trafficLight():
   signal = input("Enter the colour of the traffic light(Use Capital letters only): ")
   if (signal not in ("RED","YELLOW","GREEN")):
       print("The colour entered is invalid")
   else:
      value = light(signal)
      if (value == 0):
          print("STOP, Your Life is Precious")
      elif (value == 1):
          print ("Please WAIT, till the light is GREEN")
      else:
          print("GO!,Thank you for being patient.")

def light(colour):
    if (colour == "RED"):
        return(0);
    elif (colour == "YELLOW"):
        return (1)
    else:
        return(2)

trafficLight()
print("SPEED THRILLS BUT KILLS")
```

```
Enter the colour of the traffic light(Use Capital letters only): GREEN
GO!,Thank you for being patient.
SPEED THRILLS BUT KILLS
```

4.

In [31]:

```
#wriring mode
with open("myfile.txt","w") as myfile:
    myfile.write("This is my test file\n")
    myfile.write("I'm Derin Aldrina\n")
    myfile.write("This is my Assessment II\n")
```

In [32]:

```
with open("myfile.txt") as a:
    content=a.read()
print(content)
```

```
This is my test file
I'm Derin Aldrina
This is my Assessment II
```

In [34]:

```
#reading mode
with open("myfile.txt","r") as myfile:
    for line in myfile:
        print(line,end=" ")
```

```
This is my test file
 I'm Derin Aldrina
 This is my Assessment II
```

In [36]:

```
#counting number of lines
count=0
with open("myfile.txt","r") as myfileA:
    for line in myfileA:
        count += 1
        print(line, end=" ")
print("This file has ",count,"lines")
```

```
This is my test file
 I'm Derin Aldrina
 This is my Assessment II
 This file has  3 lines
```

In [38]:

```
#to uppercase
with open("myfile.txt","r") as myfile:
    for line in myfile:
        lineA=line.upper()
        print(lineA, end=" ")
```

```
THIS IS MY TEST FILE
 I'M DERIN ALDRINA
 THIS IS MY ASSESSMENT II
```

In [39]:

```
#appending mode
with open("myfile.txt","a") as myfile:
    myfile.write("I'm from Chemistry Department\n")
    myfile.close()
```

In [41]:

```
with open("myfile.txt") as a:
    content=a.read()
print(content)
```

```
This is my test file
I'm Derin Aldrina
This is my Assessment II
I'm from Chemistry Department
```

5. a)

In [44]:

```
import re
def text_match(text):
        patterns = 'ab{2,3}'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')
print(text_match("ab"))
print(text_match("aabbbbbc"))
```

```
Not matched!
Found a match!
```

b)

In [47]:

```
import re
def text_match(text):
        patterns = '^[a-z]+_[a-z]+$'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')

print(text_match("aab_cbbbc"))
print(text_match("aab_Abbbc"))
print(text_match("Aaab_abbbc"))
```

```
Found a match!
Not matched!
Not matched!
```

c)

In [54]:

```
import re
patterns = [ 'fox', 'dog', 'horse' ]
text = 'The quick brown fox jumps over the lazy dog.'
for pattern in patterns:
    print('Searching for "%s" in "%s" ->' % (pattern, text),)
    if re.search(pattern,  text):
        print('Matched!')
    else:
        print('Not Matched!')
```

```
Searching for "fox" in "The quick brown fox jumps over the lazy dog." ->
Matched!
Searching for "dog" in "The quick brown fox jumps over the lazy dog." ->
Matched!
Searching for "horse" in "The quick brown fox jumps over the lazy dog." ->
Not Matched!
```

In [ ]:

```
```