ASSESSMENT 2

```
#1.a)python function to perform trigonometric operation:
import math
a = math.pi/2
print("The value of sine of pi/6 is :")
print(math.sin(a))
print("The value of cosine of pi/6 is :")
print(math.cos(a))
```

```
The value of sine of pi/6 is :
1.0
The value of cosine of pi/6 is :
6.123233995736766e-17
```

```
#b)lambda function:
x = lambda a,b:a+b
print(x(4,5))
```

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9
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```
#c)user defined function that gives sum of first n natural numbers,where n is passed as an argument:
 num = 16
if num < 0:
  print("Enter a positive number")
else:
  sum = 0
  while(num > 0):
    sum += num
    num -= 1
  print("The sum of first 16 natural numbers is", sum)
```

```
The sum of first 16 natural numbers is 0
```

```
#2.a)calculate the mean of floating values stored in it:
import statistics
my_mean = [3.4,4.5,5.9,6.8,7.0,8.4,9.6]
x = statistics.mean(my_mean)
print(x)
```

```
6.514285714285714
```

```
#2.b)python function to accept first and last name as arguments:
def function(firstname,lastname):
  print(firstname+""+lastname)
function("swamy","kumar")
```

```
swamykumar
```

```
#3.b)
x=input("Enter value: ")
stop_light=int(x)
while True:
  if stop_light >= 1 and stop_light < 10:
    print('Green light')
  elif stop_light <20:
    print('Yellow light')
    stop_light += 1
  elif stop_light < 30:
    print("Red light")
    stop_light += 1
  else:
    stop_light = 0
  break
```

```
Enter value: 30
```

```
#4.
with open("myfile.txt", "w") as myfile:
  myfile.write("My first file written from python\n")
  myfile.write("Hello,world!\n")


def show(myfile):
  with open(myfile) as f:
```

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    content = f.read()
  print(content)
show('myfile.txt')
```

```
 My first file written from python
 Hello,world!
```

```
with open("myfile.txt", "r") as my_new_handle:
  for line in my_new_handle:
    count +=1
    print(line, end="")
print('This file contains ',count,' lines')
```

```
 My first file written from python
 Hello,world!
 This file contains  2  lines
```

```
my_file=open("myfile.txt", "r")
print(my_file.read())
my_file.close()
```

```
 My first file written from python
 Hello,world!
```

```
#5.a)
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("aabbbbc"))
```

```
 Not matched!
 found a match!
```

```
#b)
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)
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!
```

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