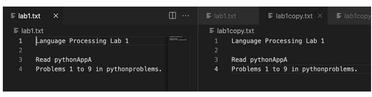
Lab 1 - Answers

Wednesday, August 31, 2022 7:17 PM

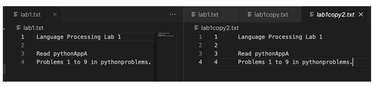
```
#1. PRINT NAME 10 TIMES USING A LOOP
print('\nQuestion1: ')
n = 1
while n <= 10:
    print('Beesanne')
    n+=1
```

```
Question1:
Beesanne
Beesanne
Beesanne
Beesanne
Beesanne
Beesanne
Beesanne
Beesanne
Beesanne
Beesanne
```

```
#2. READ IN A TEXTFILE AND OUTPUT THE EXACT COPY TO ANOTHER FILE
print('\nQuestion2:')
import sys
infile = open(sys.argv[1], 'r')
source = infile.read()
outfile = open(sys.argv[2], 'w')
outfile.write(source)
outfile.close()
```




```
#3. SAME AS 2, BUT OUTPUT FILE SHOULD BE PREFIX WITH ITS LINE NUMBER
OCCUPYING 4 SPACES
print('\nQuestion3:')
with open(sys.argv[1], 'r') as program:
    data = program.readlines()
with open(sys.argv[2], 'w') as program:
    for (number, line) in enumerate(data):
        program.write('%d %4s %s' % (number + 1, ' ', line))
```




```
#4. WRITE A PROGRAM THAT DOES A LOOP THAT PROMPTS THE USER FOR A
NUMBER, SQUARES IT, AND DISPLAYS THE ANSWER, EXIT WHEN 0
print('\nQuestion4: ')
x=input('enter a number: ')
num = 0
while x != 0:
    num = int(x) ** 2
    print(num)
    x=int(input('enter a number: '))
```

```
Question4:
enter a number: 2
4
enter a number: 7
49
enter a number: 5
25
enter a number: 0
```

```
#5  Reads 10 integers, append to list, then display the list from
beginning to end using a loop
#   then display from end to beginning accessing with negative index,
then with pop()
print('\nQuestion5: ')
list = []
i=0
while i < 10:
    x = int(input('Enter an number: '))
    list.append(x)
    i+=1
print('\nlist from beggining to end: ' )
j=0
while j < 10:
    print(list[j])
    j+=1

print('\nlist from end to beggining with index: ')
w= 1
while w <= 10:
    print(list[w*-1])
    w+= 1
print('\nlist from end to beggining with pop: ')
p=1
while p<=10:
    print(list.pop())
    p+=1
```

```
Question5:
Enter an number: 1
Enter an number: 2
Enter an number: 3
Enter an number: 4
Enter an number: 5
Enter an number: 6
Enter an number: 7
Enter an number: 8
Enter an number: 9
Enter an number: 10

list from beggining to end:
1
2
3
4
5
6
7
8
9
10

list from end to beggining with index:
10
9
8
7
6
5
4
3
2
1

list from end to beggining with pop:
10
9
8
7
6
5
4
3
2
1
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```

```
#6 a function that is passed two lists, concat the 2nd to the 1st and
return the new 1st
print('\nQuestion6: ')
def concat(l1, l2):
    for i in l2:
        l1.append(i)
    return l1
test_l1 = [1, 2, 3]
test_l2 = [4, 5, 6,]
print(concat(test_l1, test_l2))
```

```
Question6:
[1, 2, 3, 4, 5, 6]
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```

```
#7 read a string and display its length
print('\nQuestion7: ')
x = str(input('enter a string: '))
print(len(x))
```

```
Question7:
enter a string: hello
5
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```

```
#8 Call function getgrade() repeatidly until it returns a valid grade.
#  prompt user to enter an int 0-100
#  raise a runtimeError indicating invalid grade
#  when valid it should display what quartile its in.
print('\nQuestion8: ')
def getgrade(grade):
    if grade>=0 and grade <= 100:
        if grade<=24 and grade>=0:
            print('4th quatile')
        elif grade>=25 and grade<=49:
            print('3rd quartile')
        elif grade>=50 and grade<=74:
            print('2nd quartile')
        elif grade>=75 and grade<=100:
            print('1st quartile')
    else:
        raise RuntimeError("Not valid grade")
try:
    getgrade(int(input('Enter Grade: ')))
except RuntimeError as emsg:
    print(emsg)
```

```
Question8:
Enter Grade: 45
3rd quartile
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cs/Fall 2022/CPS 425 - Language Processing/Labs/Lab 1 - Python Problems

Question8:
Enter Grade: -2
Not valid grade
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```

```
#9 creates a dictionary whos keyvalue pairs are a/1 b/2...z/26
#  then prompt for and read a letter and display its value
print('\nQuestion9: ')
from string import ascii_lowercase as letternum
dict={}
num = 1
for i in letternum:
    dict[i] = num
    num+=1
x = input('Enter a Letter: ')
print(dict[x])
```

```
Question9:
Enter a Letter: f
6
```