Python Assignment - 2

May 18, 2020

[107]:
```python
# Assignment 2 task 1 Question 1.1

def myred_prod(l):
    p=1
    for i in l:
        p=p*i
    print(p)
l = [1,2,3,4,5]
myred_prod(l)
```

120

[109]:
```python
# Assignment 2 task 1 Question 1.1

def myred_add(l):
    p=0
    for i in l:
        p=p+i
    print(p)
l = [1,2,3,4,5]
myred_add(l)
```

15

[110]:
```python
# Assignment 2 task 1 Question 1.1

def myred_sub(l):
    p=0
    for i in l:
        p=p-i
    print(p)
l = [1,2,3,4,5]
myred_sub(l)
```

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[118]:
```python
# Assignment 2 task 1 Question 1.1
```

```python
def myred_div(l):
    p=1
    for i in l:
        p=p/i
    print(p)
l = [1,2,3,4,5]
myred_div(l)
```

0.008333333333333333

[38]:
```python
# Assignment 2 task 1 Question 1.2

def myfilt_odd_even(l):
    a = []
    b = []
    for i in l:
        if i%2 != 0:
            a.append(i)
        else:
            b.append(i)
    print(a)
    print(b)
l = [1,2,3,4,5,6,7,8,9]
myfilt_odd_even(l)
```

[1, 3, 5, 7, 9]
[2, 4, 6, 8]

[51]:
```python
# Assignment 2 task 1 Question 2

w = 'ACADGILD'
d = [i for i in w]
print(d)
```

['A', 'C', 'A', 'D', 'G', 'I', 'L', 'D']

[15]:
```python
# Assignment 2 task 1 Question 2

m = 'xyz'
q = []
x = 1
while x<=4:
    n = [i*x for i in m]
    q.append(n)
    x = x+1
s = [a for b in q for a in b]
print(s)
```

['x', 'y', 'z', 'xx', 'yy', 'zz', 'xxx', 'yyy', 'zzz', 'xxxx', 'yyyy', 'zzzz']

[14]:
```python
# Assignment 2 task 1 Question 2

m = 'xyz'
q = []
x = 1
while x<=4:
    n = [i*x for i in m]
    q.append(n)
    x = x+1
s = [a for b in q for a in b]
c = sorted(s)
print(c)
```

['x', 'xx', 'xxx', 'xxxx', 'y', 'yy', 'yyy', 'yyyy', 'z', 'zz', 'zzz', 'zzzz']

[6]:
```python
# Assignment 2 task 1 Question 2

p = [1,2,3]
r = []
x = 1
while x<=3:
    q = [i+x for i in p]
    r.append(q)
    x = x + 1
m = [a for b in r for a in b]
o = [m[i:i+1] for i in range(0,len(m),1)]
print(o)
```

[[2], [3], [4], [3], [4], [5], [4], [5], [6]]

[16]:
```python
# Assignment 2 task 1 Question 2

p = [1,2,3,4]
r = []
x = 1
while x<=4:
    q = [i+x for i in p]
    r.append(q)
    x = x + 1
print(r)
```

[[2, 3, 4, 5], [3, 4, 5, 6], [4, 5, 6, 7], [5, 6, 7, 8]]

[2]:
```python
# Assignment 2 task 1 Question 2

p = [1,2,3]
```

```
r = []
s = []
x = 1
while x<=3:
    q = [i for i in p]
    r.append(q)
    s.append(q)
    x = x + 1
m = [a for b in r for a in b]
n = [a for b in s for a in b]
o = sorted(n)
l = zip(m,o)
print(list(l))
```

[(1, 1), (2, 1), (3, 1), (1, 2), (2, 2), (3, 2), (1, 3), (2, 3), (3, 3)]

[7]:
```
# Assignment 2 task 1 Question 3

def longestWord(l):
    max = 0
    for i in range(0,len(l)):
        d = len(l[i])
        if d > max:
            max = d
            index = i
    print(l[index])
l = list(input('Please enter list of words with space intervals: ').split())
longestWord(l)
```

Please enter list of words with space intervals: good better best marvelous
magnificient
magnificient

[3]:
```
# Assignment 2 task 2 Question 1.1

class Area:
    def __init__(self,a,b,c):
        self.a = a
        self.b = b
        self.c = c

class Herons(Area):
    def __init__(self, a, b, c):
        Area.__init__(self,a,b,c)
        Area.a = a
        Area.b = b
        Area.c = c
```

4

```
    def calc(self):
        s = (Area.a + Area.b + Area.c)/2
        area = (s*(s-Area.a)*(s-Area.b)*(s-Area.c))**0.5
        return area

t = Herons(3,2,2)
print (t.calc())
```

1.984313483298443

```
[4]: # Assignment 2 task 2 Question 1.2

def filter_long_words(w,n):
    max = 0
    p = []
    for i in range(0,len(w)):
        d = len(w[i])
        if d > n:
            max = d
            index = i
            p.append(w[index])
    print(p)
n = int(input('Please enter a integer:'))
w = list(input('Please enter list of words with space intervals: ').split())
filter_long_words(w,n)
```

Please enter a integer:4
Please enter list of words with space intervals: This free course from iNeuron
Intelligence is awesome I am grateful to you
['course', 'iNeuron', 'Intelligence', 'awesome', 'grateful']

```
[9]: # Assignment 2 task 2 Question 2.1

def list_words_to_int(w):
    p = []
    q = []
    for i in range(0,len(w)):
        d = len(w[i])
        index = i
        p.append(w[index])
        q.append(len(w[i]))
    print(p)
    print(q)
w = list(input('Please enter list of words with space intervals: ').split())
list_words_to_int(w)
```

Please enter list of words with space intervals: Thank you iNeuron Intelligence

```
for giving back to the community
['Thank', 'you', 'iNeuron', 'Intelligence', 'for', 'giving', 'back', 'to',
'the', 'community']
[5, 3, 7, 12, 3, 6, 4, 2, 3, 9]
```

[5]:
```python
# Assignment 2 task 2 Question 2.2

def vowel_or_not(x):
    if x == 'a' or x == 'e' or x == 'i' or x == 'o' or x == 'u':
        print(True)
    else:
        print(False)
x = input('Please enter a Chracter for checking vowel or not: ')
vowel_or_not(x)
```

```
Please enter a Chracter for checking vowel or not: e
True
```