

Assignment - 3

3 Feb 2023

① Which keyword is used to create a function
create a function to return a list of odd
numbers in the range of 1 to 25.

Ans → The def keyword

list 1 = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,
19, 20, 21, 22, 23, 24, 25]

for num in list 1:

if num % 2 != 0:

print(num, end=" ")

JUL

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JUNE
TUESDAY

26

PK 26 • 177-188

APPOINTMENT MEETING

Q. 2 Why `*args` and `**kwargs` is used in some functions? create a function each for `*args` & `*kwargs` to demonstrate their use.

→ `*args` & `**kwargs` a python function flexible so it can accept a variable number of arguments and keyword arguments.

`*args` (Non-key word Arguments)
`**kwargs` (Key word Arguments)

```
* def myFun(*argv):
    for arg in argv:
        print(arg)
```

My Fun ('Hello', 'Welcome', 'to', 'brooks for brooks')

```
* def myfun(**kwargs):
    for key, value in kwargs.items():
        print("%s == %s" % (key, value))
```

myfun(first='brooks', mid='foo', last='hacker')

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JUNE

WEDNESDAY

178-187 • WK 26

IPS

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APPOINTMENT/MEETING

9 Q3 (i) iterator in python

10 An iterator is an object that contains
a countable number of values

11 → An iterator is an object that can
be iterated upon, meaning that you
12 can traverse through all the values.

1 → An iterator is an object which
implements the iterator protocol, which
2 consist of the method `--iter--()` and
`--next--()`

3 II Name the Method used to initialize the
4 iterator object & the method used
5 for iteration.

6 1. `--iter--()` ⇒ The `iter()` method is called
for the initialization of an iterator.
7 This returns an iterator object,

2. `--next--()` : The next method returns
the next value for the iterable. When
we use a for loop to traverse any
iterable object internally it uses the
`iter()` method to get an iterator
object, which further uses the
8 `next()` method to iterate over.
9 this method raises a StopIteration
to signal the end of the iteration.

APPOINTMENT NOTES

APPOINTMENT/MEETING

Q. point the first five elements of the given list $[2, 4, 6, 8, 10, 12, 14, 16]$

print first 5 elements

$i = 2$

while $i \leq 10$

print(i)

$i += 2$

Q. 4. What is a generator function in python.

a generator is a function that returns an iterator that produces a sequence of values when iterated over.

generators are useful when we want to produce a large sequence of values, but we don't want to store all of them in memory at once.

II. Why yield keyword is used? Give an example.

→ the yield keyword will convert an expression that is specified along with it to a generator and return it to the caller. if you want to get the values stored inside the generator object, you need to iterate over it. you can iterate over it using for loops or special function like next().

→ def plain-old-func():

my-list = $[1, 2, 3]$

for i in my-list:

return $i * 2$

APPOINTMENT NOTES

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JUNE
FRIDAY

180-185 • 26

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APPOINTMENT/MEETING

Q.5 create a generator function for prime numbers less than 1000.
Use the `next()` method to print the first 20 prime numbers.

```
import math
```

```
def main():
```

```
    count = 3
```

```
    one = 1
```

```
    while one == 1
```

```
        for x in range(2, int(math.sqrt(count) + 1)):
```

```
            if count % x == 0:
```

```
                continue
```

```
            if count % x != 0:
```

```
                print count
```

```
def isPrime(n):
```

```
    if (n == 1 or n == 0):
```

```
        return false
```

```
    for i in range(2, 1000):
```

```
        if (n % i == 0):
```

```
            return false
```

```
    return True
```

APPOINTMENT NOTES