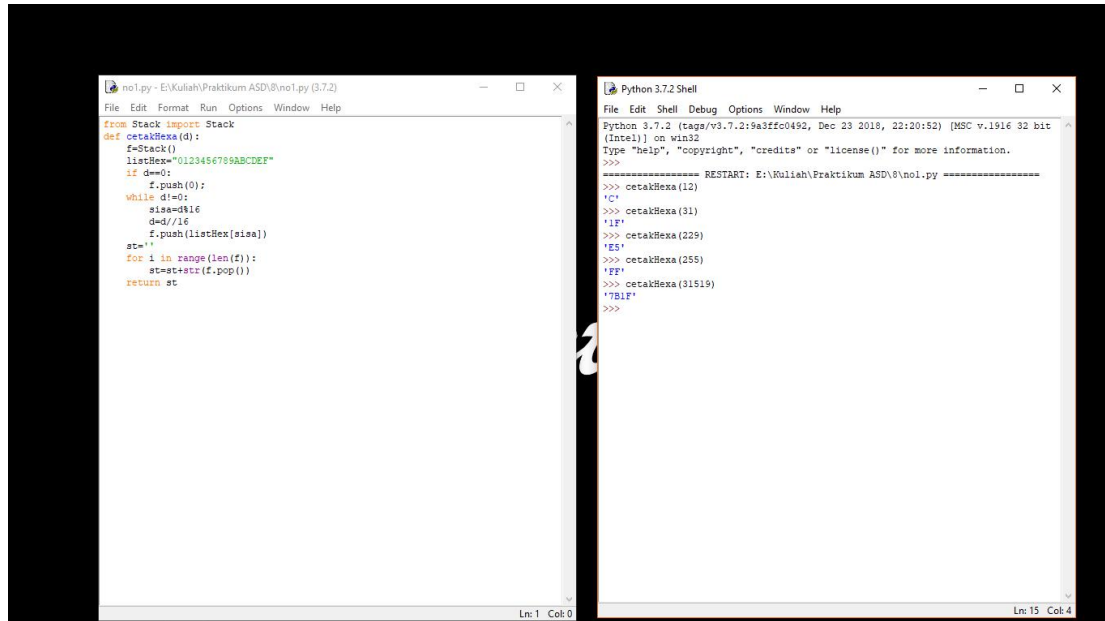


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1.



2.

```
from Stack import Stack
nilai=Stack()
for i in range(16):
    if i%3==0:
        nilai.push(i)
```

```
0 []
1 [0]
2 [0]
3 [0]
4 [0, 3]
5 [0, 3]
6 [0, 3]
7 [0, 3, 6]
8 [0, 3, 6]
9 [0, 3, 6]
10 [0, 3, 6, 9]
11 [0, 3, 6, 9]
12 [0, 3, 6, 9]
13 [0, 3, 6, 9, 12]
14 [0, 3, 6, 9, 12]
15 [0, 3, 6, 9, 12, 15]
```

3.

```
from Stack import Stack
nilai=Stack()
for i in range(16):
    if i%3==0:
        nilai.push(i)
    elif i%4==0:
        nilai.pop()
```

```
0 []
1 [0]
2 [0]
3 [0]
4 [0, 3]
5 [0]
6 [0]
7 [0, 6]
8 [0, 6]
9 [0]
10 [0, 9]
11 [0, 9]
12 [0, 9]
13 [0, 9, 12]
14 [0, 9, 12]
15 [0, 9, 12,15]
```

4.

```

PriorityQueue.py - E:\Kuliah\Praktikum ASD\8\PriorityQueue.py (3.7.2)
File Edit Format Run Options Window Help

import heapq
class PriorityQueue(object):
    def __init__(self):
        self.qlist = []
    def __len__(self):
        return len(self.qlist)
    def isEmpty(self):
        return len(self) == 0
    def enqueue(self, data, prior):
        heapq.heappush(self.qlist, (prior, data))
    def dequeue(self):
        self.qlist.sort()
        return self.qlist.pop(0)
    def getFront(self):
        return self.qlist[0]
    def getRear(self):
        return self.qlist[-1]

S = PriorityQueue()
S.enqueue('Pisang', 3)
S.enqueue('Gedang', 1)
S.enqueue('Banana', 2)

print(S.qlist)
print("get front =", S.getFront())
print("get rear =", S.getRear())

```

```

Python 3.7.2 Shell
File Edit Shell Debug Options Window Help

Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Kuliah\Praktikum ASD\8\PriorityQueue.py =====
[('Gedang', 1), ('Banana', 2), ('Pisang', 3)]
get front = ('Gedang', 1)
get rear = ('Pisang', 3)
>>>

```

```

Queue.py - E:\Kuliah\Praktikum ASD\8\Queue.py (3.7.2)
File Edit Format Run Options Window Help

class Queue(object):
    def __init__(self):
        self.qlist = []
    def isEmpty(self):
        return len(self) == 0
    def __len__(self):
        return len(self.qlist)
    def enqueue(self, data):
        self.qlist.append(data)
    def dequeue(self):
        assert not self.isEmpty()
        return self.qlist.pop(0)
    def getFront(self):
        return self.qlist[0]
    def getRear(self):
        return self.qlist[-1]

a = Queue()
a.enqueue('Gedang')
a.enqueue('Pisang')
a.enqueue('Banana')

print(a.qlist)

print("get front =", a.getFront())
print("get rear =", a.getRear())

```

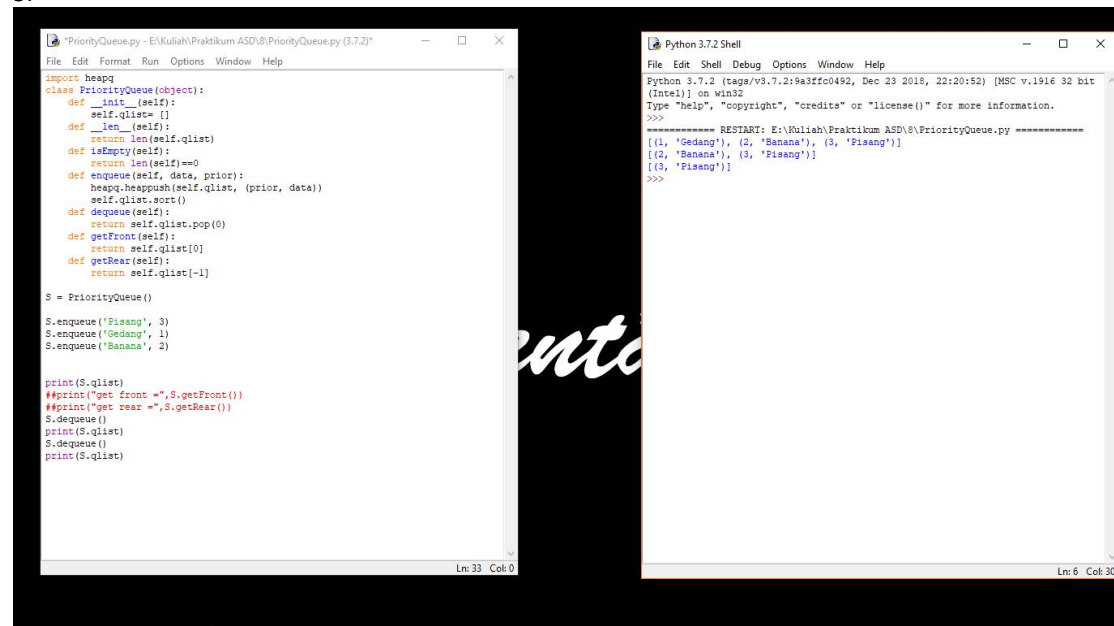
```

Python 3.7.2 Shell
File Edit Shell Debug Options Window Help

Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Kuliah\Praktikum ASD\8\Queue.py =====
['Gedang', 'Pisang', 'Banana']
get front = Gedang
get rear = Banana
>>>

```

5.



The image shows a screenshot of a Python IDE with two windows. The left window is a text editor titled 'PriorityQueue.py - E:\Kuliah\Praktikum ASD\8\PriorityQueue.py (3.7.2)'. It contains the following Python code:

```
import heapq
class PriorityQueue(object):
    def __init__(self):
        self.qlist = []
    def __len__(self):
        return len(self.qlist)
    def isEmpty(self):
        return len(self) == 0
    def enqueue(self, data, prior):
        heapq.heappush(self.qlist, (prior, data))
        self.qlist.sort()
    def dequeue(self):
        return self.qlist.pop(0)
    def getFront(self):
        return self.qlist[0]
    def getRear(self):
        return self.qlist[-1]

S = PriorityQueue()
S.enqueue('Pisang', 3)
S.enqueue('Gedang', 1)
S.enqueue('Banana', 2)

print(S.qlist)
#print("get front =", S.getFront())
#print("get rear =", S.getRear())
S.dequeue()
print(S.qlist)
S.dequeue()
print(S.qlist)
```

The right window is a Python 3.7.2 Shell titled 'Python 3.7.2 Shell'. It shows the output of the code execution:

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Kuliah\Praktikum ASD\8\PriorityQueue.py =====
[[('1', 'Gedang'), (2, 'Banana'), (3, 'Pisang')]]
[[('2', 'Banana'), (3, 'Pisang')]]
[[('3', 'Pisang')]]
>>>
```