```
1 from exceptions import Empty
 2
 3 class ArrayDeque:
 4
       def __init__(self):
           self._data = []
 5
           self._front = 0
 6
7
       def __len__(self):
           return len(self._data)
8
9
       def is_empty(self):
10
           return len(self._data)==0
       def first(self):
11
12
           if self.is_empty():
               raise Empty('Deque is Empty')
13
           return self._data[self._front]
14
15
       def add_first(self, e):
16
           self._data.insert(self._front,e)
17
18
19
       def add_last(self, e):
20
           self._data.append(e)
21
22
       def delete_first(self):
           if self.is_empty():
23
24
               raise Empty('Deque is Empty')
           value = self._data.pop(self._front)
25
           return value
26
27
28
       def delete_last(self):
           if self.is_empty():
29
               raise Empty('Deque is Empty')
30
           value = self._data.pop()
31
           return value
32
33
34 d = ArrayDeque()
35 d.add_last(10)
36 d.add_last(20)
37 d.add_last(30)
38 d.add_last(40)
39 d.add_last(50)
40 print('Deque: ',d._data)
41 print('Delete First: ',d.delete_first())
42 print('Deque: ',d._data)
43 print('Delete Last: ', d.delete_last())
44 print('Deque: ',d._data)
45 d.add_first(50)
46 print('Deque: ',d._data)
47 d.add_last(60)
```

