

Estrutura de Dados I

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Implementar uma Fila utilizando a representação circular.
Construir todas as funções citadas no PDF.
Considere o tamanho da Fila como sendo 5.

Utilizar o seguinte programa como base (não altere a função main!):

[illegible]

Saída esperada:

```
Queue created!
Error in function 'static_queue_get_last': Queue is empty!
Error in function 'static_queue_get_first': Queue is empty!
  ..size()=0, ..first()=-1, ..last()=-1
Inserted 10! (counter=1, begin=0, end=0)
  ..size()=1, ..first()=10, ..last()=10
Inserted 20! (counter=2, begin=0, end=1)
  ..size()=2, ..first()=10, ..last()=20
Inserted 30! (counter=3, begin=0, end=2)
  ..size()=3, ..first()=10, ..last()=30
Inserted 40! (counter=4, begin=0, end=3)
  ..size()=4, ..first()=10, ..last()=40
Inserted 50! (counter=5, begin=0, end=4)
  ..size()=5, ..first()=10, ..last()=50
Can't add (n=60): Queue is full!
Removed 10!
Removed 20!
Inserted 70! (counter=4, begin=2, end=0)
  ..size()=4, ..first()=30, ..last()=70
Inserted 80! (counter=5, begin=2, end=1)
  ..size()=5, ..first()=30, ..last()=80
Can't add (n=90): Queue is full!
Removed 30!
Inserted 100! (counter=5, begin=3, end=2)
  ..size()=5, ..first()=40, ..last()=100
Can't add (n=110): Queue is full!
Removed 40!
Inserted 110! (counter=5, begin=4, end=3)
  ..size()=5, ..first()=50, ..last()=110
Removed 50!
Inserted 120! (counter=5, begin=0, end=4)
  ..size()=5, ..first()=70, ..last()=120
Removed 70!
Removed 80!
Removed 100!
Removed 110!
Removed 120!
Can't remove: Queue is empty!
Queue destroyed!
```