LanchoneteService.java

```java
1    package com.example.demo.mutation.lanchonete;
2
3    import java.math.BigDecimal;
4    import java.security.InvalidParameterException;
5    import java.text.DecimalFormat;
6    import java.text.DecimalFormatSymbols;
7    import java.text.NumberFormat;
8    import java.util.ArrayList;
9    import java.util.Arrays;
10   import java.util.List;
11   import java.util.Locale;
12
13   import com.example.demo.mutation.lanchonete.dto.ItemPedidoDTO;
14   import com.example.demo.mutation.lanchonete.entidade.ItemMenu;
15   import com.example.demo.mutation.lanchonete.enums.FormaPagamentoEnum;
16   import com.example.demo.mutation.lanchonete.repository.ItemMenuRepository;
17
18   import org.springframework.beans.factory.annotation.Autowired;
19   import org.springframework.stereotype.Service;
20
21   @Service
22   public class LanchoneteService {
23
24       @Autowired
25       private ItemMenuRepository itemMenuRepository;
26
27       public String calculaValor(String pedido, String formaPagamento) {
28
29           validarFormaPagamento(formaPagamento);
30           validarEntrada(pedido);
31           List<ItemPedidoDTO> listaItens = parseListaItens(pedido);
32           validaListaItensMenu(listaItens);
33
34           BigDecimal total = listaItens.stream().map(item -> getValorTotalItem(item))
35                   .reduce(BigDecimal.ZERO, BigDecimal::add);
36
37           BigDecimal valorFinal = aplicaTaxa(formaPagamento, total);
38
39           return formataValor(valorFinal);
40       }
41
42       protected String formataValor(BigDecimal valorFinal) {
43
44           NumberFormat formatter = new DecimalFormat("#,###.##");
45           return "R$ " + formatter.format(valorFinal);
46       }
47
48       private void validaListaItensMenu(List<ItemPedidoDTO> listaItens) {
49
50           for (int i = 0; i < listaItens.size(); i++) {
51               ItemPedidoDTO item = listaItens.get(i);
52               ItemMenu itemMenu = getEntidadeItem(item);
53               if (itemMenu == null) {
54                   throw new InvalidParameterException("Item inválido!");
55               }
56               if (item.getQtd() == 0) {
57                   throw new InvalidParameterException("Quantidade inválida!");
58               }
```

```java
59 4        if (itemMenu.getNomeItemPrincipal()!=null && !existeItemPrincipal(listaItens, itemMenu)
60 2          && !existeItemCombo(listaItens, itemMenu.getNomeItemPrincipal())) {
61            throw new InvalidParameterException("Item extra não pode ser pedido sem o principal!");
62          }
63        }
64      }

66      private ItemMenu getEntidadeItem(ItemPedidoDTO item) {

68 1        return itemMenuRepository.getItem(item.getNome());
69      }

71      private boolean existeItemCombo(List<ItemPedidoDTO> listaItens, String nome) {

73 2        return listaItens.stream().anyMatch(item -> {
74          ItemMenu itemMenu = getEntidadeItem(item);
75 2        if (itemMenu.getNomeItensCombo().contains(nome)) {
76 2            return true;
77          }
78 2        return false;
79        });
80      }

82      private boolean existeItemPrincipal(List<ItemPedidoDTO> listaItens, ItemMenu itemMenu) {

84 4        return listaItens.stream().anyMatch(item -> item.getNome().equals(itemMenu.getNome()));
85      }

87      private void validarEntrada(String entrada) {

89 2        if (entrada.length() == 0) {
90          throw new IllegalArgumentException("Não há itens no carrinho de compras!");
91        }
92      }

94      private void validarFormaPagamento(String formaPagamento) {

96 2        if (FormaPagamentoEnum.valueOf(formaPagamento.toUpperCase()) == null) {
97          throw new IllegalArgumentException("Forma de pagamento inexistente!");
98        }

100     }

102     private BigDecimal aplicaTaxa(String formaPagamento, BigDecimal total) {

104 3       List<String> formasComDesconto = Arrays.asList("dinheiro", "PIX");
105 2       if (formaPagamento.equals("credito")) {
106 2         return total.multiply(BigDecimal.valueOf(1.03));
107 2       } else if (formasComDesconto.contains(formaPagamento)) {
108 2         return total.multiply(BigDecimal.valueOf(0.95));
109       }
110 1      return total;
111     }

113     private BigDecimal getValorTotalItem(ItemPedidoDTO item) {

115       ItemMenu itemValor = getEntidadeItem(item);
116 1      return BigDecimal.valueOf(item.getQtd()).multiply(itemValor.getValor());
117     }

119     private List<ItemPedidoDTO> parseListaItens(String entrada) {

121       List<ItemPedidoDTO> listaItens = new ArrayList<>();
```

```
122        String[] itens = entrada.split(";");
123        for (String item : itens) {
124          String[] dados = item.split(",");
125 2        listaItens.add(ItemPedidoDTO.builder().nome(dados[0]).qtd(Long.valueOf(dados[1])).build());
126        }
127 1      return listaItens;
128     }
129
130  }
```

Mutations

29	1. removed call to com/example/demo/mutation/lanchonete/LanchoneteService::validarFormaPagamento → SURVIVED
30	1. removed call to com/example/demo/mutation/lanchonete/LanchoneteService::validarEntrada → KILLED
32	1. removed call to com/example/demo/mutation/lanchonete/LanchoneteService::validaListaItensMenu → KILLED
34	1. replaced return value with null for com/example/demo/mutation/lanchonete/LanchoneteService::lambda$0 → KILLED
39	1. replaced return value with "" for com/example/demo/mutation/lanchonete/LanchoneteService::calculaValor → KILLED
45	1. replaced return value with "" for com/example/demo/mutation/lanchonete/LanchoneteService::formataValor → KILLED
50	1. changed conditional boundary → KILLED 2. removed conditional - replaced comparison check with false → KILLED 3. removed conditional - replaced comparison check with true → KILLED 4. Substituted 0 with 1 → KILLED
53	1. removed conditional - replaced equality check with false → KILLED 2. removed conditional - replaced equality check with true → KILLED
56	1. Substituted 0 with 1 → KILLED 2. removed conditional - replaced equality check with false → KILLED 3. removed conditional - replaced equality check with true → KILLED
59	1. removed conditional - replaced equality check with true → SURVIVED 2. removed conditional - replaced equality check with false → SURVIVED 3. removed conditional - replaced equality check with true → KILLED 4. removed conditional - replaced equality check with false → SURVIVED
60	1. removed conditional - replaced equality check with true → KILLED 2. removed conditional - replaced equality check with false → SURVIVED
68	1. replaced return value with null for com/example/demo/mutation/lanchonete/LanchoneteService::getEntidadeItem → KILLED
73	1. replaced boolean return with true for com/example/demo/mutation/lanchonete/LanchoneteService::existeItemCombo → SURVIVED 2. replaced boolean return with false for com/example/demo/mutation/lanchonete/LanchoneteService::existeItemCombo → KILLED
75	1. removed conditional - replaced equality check with false → KILLED 2. removed conditional - replaced equality check with true → SURVIVED
76	1. replaced boolean return with false for com/example/demo/mutation/lanchonete/LanchoneteService::lambda$2 → KILLED 2. Substituted 1 with 0 → KILLED
78	1. Substituted 0 with 1 → NO_COVERAGE 2. replaced boolean return with true for com/example/demo/mutation/lanchonete/LanchoneteService::lambda$2 → NO_COVERAGE
84	1. replaced boolean return with true for com/example/demo/mutation/lanchonete/LanchoneteService::lambda$3 → SURVIVED 2. replaced boolean return with false for com/example/demo/mutation/lanchonete/LanchoneteService::existeItemPrincipal → SURVIVED 3. replaced boolean return with true for com/example/demo/mutation/lanchonete/LanchoneteService::existeItemPrincipal → SURVIVED 4. replaced boolean return with false for com/example/demo/mutation/lanchonete/LanchoneteService::lambda$3 → SURVIVED
89	1. removed conditional - replaced equality check with true → KILLED 2. removed conditional - replaced equality check with false → KILLED
96	1. removed conditional - replaced equality check with false → SURVIVED 2. removed conditional - replaced equality check with true → KILLED
104	1. Substituted 0 with 1 → KILLED 2. Substituted 1 with 0 → KILLED 3. Substituted 2 with 3 → SURVIVED
105	1. removed conditional - replaced equality check with false → SURVIVED 2. removed conditional - replaced equality check with true → KILLED

106	1. replaced return value with null for com/example/demo/mutation/lanchonete/LanchoneteService::aplicaTaxa → KILLED 2. Substituted 1.03 with 1.0 → SURVIVED
107	1. removed conditional - replaced equality check with false → KILLED 2. removed conditional - replaced equality check with true → SURVIVED
108	1. replaced return value with null for com/example/demo/mutation/lanchonete/LanchoneteService::aplicaTaxa → KILLED 2. Substituted 0.95 with 1.0 → KILLED
110	1. replaced return value with null for com/example/demo/mutation/lanchonete/LanchoneteService::aplicaTaxa → NO_COVERAGE
116	1. replaced return value with null for com/example/demo/mutation/lanchonete/LanchoneteService::getValorTotalItem → KILLED
125	1. Substituted 1 with 0 → KILLED 2. Substituted 0 with 1 → KILLED
127	1. replaced return value with Collections.emptyList for com/example/demo/mutation/lanchonete/LanchoneteService::parseListaItens → KILLED

Active mutators

- CONDITIONALS_BOUNDARY
- EMPTY_RETURNS
- FALSE_RETURNS
- INCREMENTS
- INLINE_CONSTS
- INVERT_NEGS
- MATH
- NULL_RETURNS
- PRIMITIVE_RETURNS
- REMOVE_CONDITIONALS_EQUAL_ELSE
- REMOVE_CONDITIONALS_EQUAL_IF
- REMOVE_CONDITIONALS_ORDER_ELSE
- REMOVE_CONDITIONALS_ORDER_IF
- REMOVE_INCREMENTS
- TRUE_RETURNS
- VOID_METHOD_CALLS

Tests examined

- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorComItemInvalido()] (3 ms)
- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorCompraSimples()] (7 ms)
- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorComboComItemExtra()] (4 ms)
- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorCompraComExtra()] (7 ms)
- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorComQuantidadeInvalida()] (841 ms)
- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorSemItens()] (2 ms)
- com.example.demo.mutation.lanchonete.LanchoneteServiceTest.[engine:junit-jupiter]/[class:com.example.demo.mutation.lanchonete.LanchoneteServiceTest]/[method:testCalculaValorComFormaPagamentoInvalida()] (2 ms)

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