Software Testing & Analysis

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1) TRANSITION PAIR TESTING

STATE S0
Incoming: T1, T19, T5, T3, T14, T13
Outgoing: T2, T6, T20

Transition Pair	Covering Test Case
(T1, T2)	Test #3
(T1, T6)	Test #1
(T1, T20)	Test #4
(T3, T2)	Test #3
(T3, T6)	Test #5
(T3, T20)	Test #6
(T5, T2)	Test #6
(T5, T6)	Test #3
(T5, T20)	Test #1
(T13, T2)	Test #1
(T13, T6)	Test #7
(T13, T20)	Test #3
(T14, T2)	Test #2
(T14, T6)	Test #2
(T14, T20)	Test #5
(T19, T2)	Test #6
(T19, T6)	Test #5
(T19, T20)	Test #2

STATE S1
Incoming: T17, T18
Outgoing: T16, T17

Transition Pair	Covering Test Case
(T17, T16)	Test #2
(T17, T17)	Test #2
(T18, T16)	Test #7
(T18, T17)	Test #2

STATE S2
Incoming: T2
Outgoing: T3, T4

Transition Pair	Covering Test Case
(T2, T3)	Test #3
(T2, T4)	Test #1

STATE S3
Incoming: T4, T6
Outgoing: T5, T7, T8

Transition Pair	Covering Test Case
(T4, T5)	Test #1
(T4, T7)	Test #2
(T4, T8)	Test #6
(T6, T5)	Test #5
(T6, T7)	Test #1
(T6, T8)	Test #2

STATE S4
Incoming: T7, T8
Outgoing: T9, T18, T19

Transition Pair	Covering Test Case
(T7, T9)	Test #1
(T7, T18)	Test #2
(T7, T19)	Test #6
(T8, T9)	Test #3
(T8, T18)	Test #7
(T8, T19)	Test #2

STATE S5
Incoming: T9, T10
Outgoing: T10, T11, 12

Transition Pair	Covering Test Case
(T9, T10)	Test #1
(T9, T11)	Test #3
(T9, T12)	Test #2
(T10, T10)	Test #1

(T10, T11)	Test #7
(T10, T12)	Test #1

STATE S6
Incoming: T11, T12, T16
Outgoing: T13, T14

Transition Pair	Covering Test Case
(T11, T13)	Test #3
(T11, T14)	Test #7
(T12, T13)	Test #1
(T12, T14)	Test #2
(T16, T13)	Test #7
(T16, T14)	Test #2

Test Cases:

Test #1
Activate(6.5, 8.5), Cash(36.0), Regular(), Start(), Pump(), Pump(), Pump(), Pump(), Pump(), Receipt(), Credit(), Approved(), Cancel(), TurnOff()

Transition: T1 -> T6 -> T7 -> T9 -> T10 -> T10 -> T10 -> T10 -> T10 -> T12 -> T13 -> T2 -> T4 -> T5 -> T20 ->

Test #2
Activate(3, 4), Cash(1), Regular(), Start(), Pump(), NoReceipt(), Credit(), Approved(), Regular(), Start(), Pump(), Pump(), Stop(), NoReceipt(), Cash(10.0), Diesel(), Cancel(), TurnOff()

Transition: T1 -> T6 -> T7 -> T9 -> T12 -> T14 -> T2 -> T4 -> T7 -> T18 -> T17 -> T17 -> T16 -> T14 -> T6 -> T8 -> T19 -> T20

Test #3
Activate(6, 4), Credit(), Reject(), Credit(), Approved(), Cancel(), Cash(10), Diesel(), Start(), Stop(), Receipt(), TurnOff()

Transition: T1 -> T2 -> T3 -> T2 -> T4 -> T5 -> T6 -> T8 -> T9 -> T11 -> T13 -> T20

Test #4
Activate(4, 5), TurnOff()

Transition: T1 -> T20

Test #5
Activate(3.0, 4.0), Credit(), Reject(), Cash(5.0), Cancel(), Cash(10), Diesel(), Cancel(), Cash(4), Regular(), Start(), Pump(), Stop(), NoReceipt(), TurnOff()

Transition: T1 -> T2 -> T3 -> T6 -> T5 -> T6 -> T8 -> T19 -> T6 -> T7 -> T9 -> T10 -> T12 -> T14 -> T20

Test #6
Activate(3.5, 4.0), Credit(), Approved(), Cancel(), Credit(), Approved(), Diesel(), Cancel(), Cash(1), Regular(), Cancel(),
Credit(), Reject(), TurnOff()

Transition: T1 -> T2 -> T4 -> T5 -> T2 -> T4 -> T8 -> T19 -> T6 -> T7 -> T19 -> T2 -> T3 -> T20 ->

Test #7
Activate(3.0, 4.0), Credit(), Approved(), Diesel(), Start(), Stop(), Receipt(), Cash(40), Diesel(), Start(),Pump(), Stop(), NoReceipt()

Transition: T1 -> T2 -> T4 -> T8 -> T18 -> T16 -> T13 -> (Print: 0 and 0) T6 -> T8 -> T9 -> T10 -> T11 -> T14

2) DEFAULT/GHOST TRANSITIONS TESTING

STATE "START"

Default Transition	Covering Test Case
Activate(a, d)[a <= 0 || d <= 0]	Test #8
Credit()	Test #8
Reject()	Test #8
Cancel()	Test #8
Approved()	Test #8
Cash(c)	Test #8
Regular()	Test #8
Diesel()	Test #8
Start()	Test #8
Pump()	Test #8
Stop()	Test #8
NoReceipt()	Test #8
Receipt()	Test #8
TurnOff()	Test #8

Test #8
Activate(-3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()

STATE "S0"

Default Transition	Covering Test Case
Activate(a, d)	Test #9

Reject()	Test #9
Cancel()	Test #9
Approved()	Test #9
Cash(c)[c <= 0]	Test #9
Regular()	Test #9
Diesel()	Test #9
Start()	Test #9
Pump()	Test #9
Stop()	Test #9
NoReceipt()	Test #9
Receipt()	Test #9

Test #9
Activate(3.0, 4.0), **Activate(-3.0, 4.0), Reject(), Cancel(), Approved(), Cash(-2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt()**

State "S1"

Default Transition	**Covering Test Case**
Activate(a, d)	Test #10
Credit()	Test #10
Reject()	Test #10
Cancel()	Test #10
Approved()	Test #10
Cash(c)	Test #10
Regular()	Test #10
Diesel()	Test #10
Start()	Test #10
NoReceipt()	Test #10
Receipt()	Test #10
TurnOff()	Test #10

Test #10
Activate(3.0, 4.0), Credit(), Approved(), Regular(), Start(), **Activate(-3.0, 4.0), Reject(), Cancel(), Approved(), Cash(-2), Regular(), Diesel(), Start(), NoReceipt(), Receipt()**

STATE "S2"

Default Transition	**Covering Test Case**
Activate(a, d)	Test #11
Credit()	Test #11
Cancel()	Test #11
Cash(c)	Test #11
Regular()	Test #11
Diesel()	Test #11
Start()	Test #11

Pump()	Test #11
Stop()	Test #11
NoReceipt()	Test #11
Receipt()	Test #11
TurnOff()	Test #11

Test #11
Activate(3.0, 4.0), Credit(), **Activate(3.0, 4.0), Credit(), Cancel(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()**

STATE "S3"

Default Transition	Covering Test Case
Activate(a, d)	Test #12
Credit()	Test #12
Reject()	Test #12
Approved()	Test #12
Cash(c)	Test #12
Start()	Test #12
Pump()	Test #12
Stop()	Test #12
NoReceipt()	Test #12
Receipt()	Test #12
TurnOff()	Test #12

Test #12
Activate(3.0, 4.0), Credit(), Approved(), **Activate(3.0, 4.0), Credit(), Reject(), Approved(), Cash(2), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()**

STATE "4"

Default Transition	Covering Test Case
Activate(a, d)	Test #13
Credit()	Test #13
Reject()	Test #13
Approved()	Test #13
Cash(c)	Test #13
Regular()	Test #13
Diesel()	Test #13
Start()[**!**(k == 0 || k == 1)]	Test #13 b, not executable
Pump()	Test #13
Stop()	Test #13
NoReceipt()	Test #13
Receipt()	Test #13
TurnOff()	Test #13

Test #13
Activate(3.0, 4.0), Credit(), Approved(), Regular(), **Activate(3.0, 4.0), Credit(), Reject(), Approved(), Cash(2), Regular(), Diesel(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()**

Test #13 b
Activate(3.0, 4.0), Credit(), Approved(), Regular(), **Start()** **with internal k=2, but not executable**

STATE "S5"

Default Transition	Covering Test Case
Activate(a, d)	Test #14
Credit()	Test #14
Reject()	Test #14
Cancel()	Test #14
Approved()	Test #14
Cash(c)	Test #14
Regular()	Test #14
Diesel()	Test #14
Start()	Test #14
NoReceipt()	Test #14
Receipt()	Test #14
TurnOff()	Test #14

Test #14
Activate(3.0, 4.0), Cash(5),Regular(), Start()
Activate(3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), NoReceipt(), Receipt(), TurnOff()

STATE "S6"

Default Transition	Covering Test Case
Activate(a, d)	Test #15
Credit()	Test #15
Reject()	Test #15
Cancel()	Test #15
Approved()	Test #15
Cash(c)	Test #15
Regular()	Test #15
Diesel()	Test #15
Start()	Test #15
Pump()	Test #15
Stop()	Test #15
TurnOff()	Test #15

Test #15

Activate(3.0, 4.0), Cash(5),Regular(), Start(), Stop()
Activate(3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), TurnOff()

STATE "END"

Default Transition	Covering Test Case
Activate(a, d)	Test #16
Credit()	Test #16
Reject()	Test #16
Cancel()	Test #16
Approved()	Test #16
Cash(c)	Test #16
Regular()	Test #16
Diesel()	Test #16
Start()	Test #16
Pump()	Test #16
Stop()	Test #16
NoReceipt()	Test #16
Receipt()	Test #16

Test #16
Activate(3.0, 4.0), Cash(5),Regular(), Start(), Stop(), NoReceipt(), TurnOff(),
Activate(3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()

3) MULTIPLE-CONDITIONAL TESTING

```
Activate(float a, float d)
        if ((k == -1) && (a > 0) && (d > 0))
```

k == -1	a > 0	d > 0	Test Coverage
T	T	T	Test #17
T	T	F	Test #19
T	F	T	Test #18
T	F	F	Test #20
F	T	T	Test #21
F	T	F	Test #23
F	F	T	Test #22
F	F	F	Test #24

Test #17
Activate(3.0, 4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Test #18
Activate(-3.0, 4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Test #19
Activate(3.0, -4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Test #20
Activate(-3.0, -4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Test #21
Activate(3.0, 4.0), **Activate(3.0, 4.0),** Cash(20), Cancel(), TurnOff()

Test #22
Activate(3.0, 4.0), **Activate(-3.0, 4.0),** Cash(20), Cancel(), TurnOff()

Test #23
Activate(3.0, 4.0), **Activate(3.0, -4.0),** Cash(20), Cancel(), TurnOff()

Test #24
Activate(3.0, 4.0), **Activate(-3.0, -4.0),** Cash(20), Cancel(), TurnOff()

```
public final int Credit() {
    if (k == 0) {
```

k == 0	Test Coverage
T	Test #25
F	Test #25

Test #25: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Reject()

```
public final int Reject() {
    if (k == 2) {
```

k == 2	Test Coverage
T	Test #26
F	Test #26

Test #26: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Reject(), Reject()

```
public final int Cancel() {
    if ((k == 3) || (k == 4)) {
```

k == 3	k == 4	Test Coverage
T	T	Not Executable
T	F	Test #27
F	T	Test #29
F	F	Test #28

```
        if (w == 0) {
```

w == 0	Test Coverage

T	Test #27
F	Test #30

Test #27: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Approved(), Cancel();

Test #28: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Approved(), Cancel(), Cancel()

Test #29: Activate(5.0, 6.0), Credit(), Approved(), Regular(), Start(), Pump(), Pump(), Stop(), Receipt(), Cash(20), Regular(), Cancel(), Credit()

Test #30: Activate(5.0, 6.0), Credit(), Approved(), Cancel()

Condition (T T) is not executable because "k" can't be 2 values at the same time hence, these two conditions can't be True at the same time

```
public final int Approved() {
    if (k == 2) {
```

k == 2	**Test Coverage**
T	Test #27
F	Test #31

Test #31: Activate(3.5, 4.5), Approved(), Cash(-20), Regular(), Receipt() , TurnOff()

```
public final int Cash(float c) {
    if (k == 0) {
```

k == 0	**Test Coverage**
T	Test #31
F	Test #32

Test #32: Activate(3.3 4.4), Credit(), Approved(), Regular(), Start(), Cash(-20), Stop(), NoReceipt(), TurnOff()

```
public final int Regular() {
    if (k == 3) {
```

k == 3	**Test Coverage**
T	Test #32
F	Test #33

Test #33: Activate(2.6, 3.1), Credit(), Regular(), Diesel(), Start(), Approved(), Regular(), Cancel(), TurnOff()

```
        if (w==1)
```

w == 1	**Test Coverage**

T	Test #33
F	Test #31

```
public final int Diesel() {
    if (k == 3) {
```

k == 3	Test Coverage
T	Test #34
F	Test #33

Test #34: Activate(5.0, 6.0), Credit(), Approved(), Regular(), Start(), Pump(), Pump(), Stop(), Receipt(), Cash(20), Diesel()

```
public final int Start() {
    if (k == 4) {
```

k == 4	Test Coverage
T	Test #34
F	Test #33

```
public final int Pump() {
    if (k == 5) {
```

k == 5	Test Coverage
T	Test #35
F	Test #36

Test #35: Activate(5.0, 6.0), Credit(), Approved(), Regular(), Start(), Pump(), Stop();

Test #36: Activate(3, 3.5), Pump(), Stop(), NoReceipt(), TurnOff()

```
        if ((w == 1) || ((cash > price * (L + 1)) && (w == 0))) {
```

w == 1	cash > price * (L + 1)	w == 0	Test coverage
T	T	T	Not Executable, w can't be 1 and 0 at same time
T	T	F	Test #37
T	F	T	Not Executable, w can't be 0 and 1 same time
T	F	F	Test #35
F	T	T	Test #38
F	T	F	Not Executable, both (w==0) and (w==1) can't be both False.

F	F	T	Test #39
F	F	F	Not Executable, both (w==0) and (w==1) can't be both False.

Test #37: Activate(3, 4), Cash(20), Cancel(), Credit(), Approved(), Regular(), Start(), Pump(), Stop()

Test #38: Activate(3.0, 4.0), Credit(), Reject(), Cash(5), Cancel(), Cash(10), Diesel(), Cancel(), Cash(4), Regular(), Start(), Pump(), gp.Stop(), NoReceipt(), TurnOff()

Test #39: Activate(3.3, 4.4), Cash(1.1f), Regular(), Start(), Pump(), NoReceipt(), Credit();

```
else if ((w == 0) && (cash < price * (L + 1))) {
```

w == 0	cash < price * (L + 1)	Test Coverage
T	T	Test #39
T	F	Test #38
F	T	Not Executable. If (w==0) evaluates to False, then (w==0) must be True. With (w==0) being True, the previous if statement if ((w == 1) || ((cash > price * (L + 1)) && (w == 0))) must be evaluated to True, which makes this else if statement unreachable. (re-Confirm)
F	F	Not Executable. If (w==0) evaluates to False, then (w==0) must be True. With (w==0) being True, the previous if statement if ((w == 1) || ((cash > price * (L + 1)) && (w == 0))) must be evaluated to True, which makes this else if statement unreachable. (re-Confirm)

```
if ((w == 0) && (total < cash)) {
```

w == 0	total < cash	Test Coverage
T	T	Test #39
T	F	Test #41
F	T	if ((w == 0) && (total < cash)) is nested inside the previous else if statement. Therefore, when the execution reaches this if statement, (w==0) must be True.
F	F	if ((w == 0) && (total < cash)) is nested inside the previous else if statement. Therefore, when the execution reaches this if statement, (w==0) must be True.

```
public final int Stop() {
    if (k == 5) {
```

k == 5	Test Coverage
T	Test #38
F	Test #40

Test #40: Activate(3.0f, 4.0f), Cash(2.0f), Diesel(), Start(); Pump(); Pump(); Pump(); Pump(), Stop();

Test #41: Activate(3.0f, 4.0f); Credit(); Reject(); Cash(5); Cancel(); Cash(10); Diesel(); Cancel(); Cash(-3); Regular();
Start(); Pump(); Stop(); NoReceipt(); TurnOff();

```
        if ((w == 0) && (total < cash)) {
```

w == 0	total < cash	Test Coverage
T	T	Test #1
T	F	Not executable, "total" doesn't get updated
F	T	Test #37
F	F	Test #35

```
public final int NoReceipt() {
    if (k == 6) {
```

k == 6	Test Coverage
T	Test #38
F	Test #36

```
public final int Receipt() {
    if (k == 6) {
```

k == 6	Test Coverage
T	Test #34
F	Test #31

```
public final int TurnOff() {
    if (k == 0) {
```

k == 0	Test Coverage
T	Test #41
F	Test #42

Test #42: Activate(3.0f, 4.0f); Credit(); Approved(); Diesel(); Start(); Pump(); Pump(); Receipt(); TurnOff();

4) TEST SUITE

Test#1: Activate 6.5 8.5 Cash 36.0 Regular Start Pump Pump Pump Pump Pump Receipt Credit Approved Cancel TurnOff
Test#2: Activate 3 4 Cash 1 Regular Start Pump NoReceipt Credit Approved Regular Start Pump Pump Stop NoReceipt Cash 10.0 Diesel Cancel TurnOff
Test#3: Activate 6 4 Credit Reject Credit Approved Cancel Cash 10 Diesel Start Stop Receipt TurnOff
Test#4: Activate 4 5 TurnOff
Test#5: Activate 3.0 4.0 Credit Reject Cash 5.0 Cancel Cash 10 Diesel Cancel Cash 4 Regular Start Pump Stop NoReceipt TurnOff
Test#6: Activate 3.5 4.0 Credit Approved Cancel Credit Approved Diesel Cancel Cash 1 Regular Cancel Credit Reject TurnOff
Test#7: Activate 3.0 4.0 Credit Approved Diesel Start Stop Receipt Cash 40 Diesel Start Pump Stop NoReceipt
Test#8: Activate -3.0 4.0 Credit Reject Cancel Approved Cash 2 Regular Diesel Start Pump Stop NoReceipt Receipt TurnOff
Test#9: Activate 3.0 4.0 Activate -3.0 4.0 Reject Cancel Approved Cash -2 Regular Diesel Start Pump Stop NoReceipt Receipt
Test#10: Activate 3.0 4.0 Credit Approved Regular Start Activate -3.0 4.0 Reject Cancel Approved Cash -2 Regular Diesel Start NoReceipt Receipt
Test#11: Activate 3.0 4.0 Credit Activate 3.0 4.0 Credit Cancel Cash 2 Regular Diesel Start Pump Stop NoReceipt Receipt TurnOff
Test#12: Activate 3.0 4.0 Credit Approved Activate 3.0 4.0 Credit Reject Approved Cash 2 Start Pump Stop NoReceipt Receipt TurnOff
Test#13: Activate 3.0 4.0 Credit Approved Regular Activate 3.0 4.0 Credit Reject Approved Cash 2 Regular Diesel Pump Stop NoReceipt Receipt TurnOff
Test#14: Activate 3.0 4.0 Cash 5 Regular Start Activate 3.0 4.0 Credit Reject Cancel Approved Cash 2 Regular Diesel Start NoReceipt Receipt TurnOff
Test#15: Activate 3.0 4.0 Cash 5 Regular Start Stop Activate 3.0 4.0 Credit Reject Cancel Approved Cash 2 Regular Diesel Start Pump Stop TurnOff
Test#16: Activate 3.0 4.0 Cash 5 Regular Start Stop NoReceipt TurnOff Activate 3.0 4.0 Credit Reject Cancel Approved Cash 2 Regular Diesel Start Pump Stop NoReceipt Receipt TurnOff
Test#17: Activate 3.0 4.0 Activate 3.0 4.0 Cash 20 Cancel TurnOff
Test#18: Activate -3.0 4.0 Activate 3.0 4.0 Cash 20 Cancel TurnOff
Test#19: Activate 3.0 -4.0 Activate 3.0 4.0 Cash 20 Cancel TurnOff
Test#20: Activate -3.0 -4.0 Activate 3.0 4.0 Cash 20 Cancel TurnOff
Test#21: Activate 3.0 4.0 Activate 3.0 4.0 Cash 20 Cancel TurnOff
Test#22: Activate 3.0 4.0 Activate -3.0 4.0 Cash 20 Cancel TurnOff
Test#23: Activate 3.0 4.0 Activate 3.0 -4.0 Cash 20 Cancel TurnOff
Test#24: Activate 3.0 4.0 Activate -3.0 -4.0 Cash 20 Cancel TurnOff
Test#25: Activate 3.0 4.0 Activate 3.0 4.0 Credit Credit Reject

Test#26: Activate 3.0 4.0 Activate 3.0 4.0 Credit Credit Reject Reject
Test#27: Activate 3.0 4.0 Activate 3.0 4.0 Credit Credit Approved Cancel
Test#28: Activate 3.0 4.0 Activate 3.0 4.0 Credit Credit Approved Cancel Cancel
Test#29: Activate 5.0 6.0 Credit Approved Regular Start Pump Pump Stop Receipt Cash 20 Regular Cancel Credit
Test#30: Activate 5.0 6.0 Credit Approved Cancel
Test#31: Activate 3.5 4.5 Approved Cash -20 Regular Receipt TurnOff
Test#32: Activate 3.3 4.4 Credit Approved Regular Start Cash -20 Stop NoReceipt TurnOff
Test#33: Activate 2.6 3.1 Credit Regular Diesel Start Approved Regular Cancel TurnOff
Test#34: Activate 5.0 6.0 Credit Approved Regular Start Pump Pump Stop Receipt Cash 20 Diesel
Test#35: Activate 5.0 6.0 Credit Approved Regular Start Pump Stop
Test#36: Activate 3 3.5 Pump Stop NoReceipt TurnOff
Test#37: Activate 3 4 Cash 20 Cancel Credit Approved Regular Start Pump Stop
Test#38: Activate 3.0 4.0 Credit Reject Cash 5 Cancel Cash 10 Diesel Cancel Cash 4 Regular Start Pump Stop NoReceipt TurnOff
Test#39: Activate 3.3 4.4 Cash 1.1 Regular Start Pump NoReceipt Credit
Test#40: Activate 3.0 4.0 Cash 2.0 Diesel Start Pump Pump Pump Pump Stop
Test#41: Activate 3.0 4.0 Credit Reject Cash 5 Cancel Cash 10 Diesel Cancel Cash -3 Regular Start Pump Stop NoReceipt TurnOff
Test#42: Activate 3.0 4.0 Credit Approved Diesel Start Pump Pump Receipt TurnOff
$$

5, 6) TEST RESULTS

Test #1
Activate(6.5, 8.5), Cash(36.0), Regular(), Start(), Pump(), Pump(), Pump(), Pump(), Pump(), Receipt(), Credit(), Approved(), Cancel(), TurnOff()

Expected (from MDA):

```
[ Price:0, Total:0, Cash:0, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:0, Total:0, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:0, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:0, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:6.5, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:13, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:19.5, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:26, Cash:36, Rprice:6.5, Dprice:8.5, K:0 ]
[ Price:6.5, Total:32.5, Cash:36, Rprice:6.5, Dprice:8.5, K:0  ]
[ Price:6.5, Total:32.5, Cash:36, Rprice:6.5, Dprice:8.5, K:0  ]
[ Price:6.5, Total:32.5, Cash:36, Rprice:6.5, Dprice:8.5, K:0  ]
[ Price:6.5, Total:32.5, Cash:36, Rprice:6.5, Dprice:8.5, K:1  ]
[ Price:6.5, Total:32.5, Cash:36, Rprice:6.5, Dprice:8.5, K:1  ]
```

```
[ Price:6.5, Total:32.5, Cash:36, Rprice:6.5, Dprice:8.5, K:1 ]
```

Actual Output:

```
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.5, Dprice: 8.5, K: 0.0]
[Price: 0.0, Total: 0.0, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 3.0 ]
[Price: 6.5, Total: 0.0, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 4.0 ]
[Price: 6.5, Total: 0.0, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 6.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 13.0, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 19.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 26.0, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 32.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 32.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 32.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 32.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 32.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
[Price: 6.5, Total: 32.5, Cash: 36.0, Rprice: 6.5, Dprice: 8.5, K: 5.0 ]
```

Actual results do not match the expected results, thus Test #1 Failed

---

Test #2

Activate(3, 4), Cash(1), Regular(), Start(), Pump(), NoReceipt(), Credit(), Approved(), Regular(), Start(), Pump(), Pump(), Stop(), NoReceipt(), Cash(10.0), Diesel(), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:1, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:3.3, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:6.6, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:6.6, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:6.6, Cash:1, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
```

```
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:6.6, Cash:10, Rprice:3, Dprice:4, K:0 ]
```

Actual (output):

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3
Enter value d: 4
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 1
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 3.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
PUMP STOPPED. NOT SUFFICIENT FUNDS.
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
$1.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[ Price: 3.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 6.0 ]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[ Price: 3.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 3.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
```

```
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 3.0, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.3, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 3.3, Total: 0.0, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 1
TOTAL CHARGE: $3.3
CONTINUE PUMPING
[ Price: 3.3, Total: 3.3, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 2
TOTAL CHARGE: $6.6
CONTINUE PUMPING
[ Price: 3.3, Total: 6.6, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 2
TOTAL CHARGE: $6.6
DO YOU WANT A RECEIPT?
[ Price: 3.3, Total: 6.6, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 6.0 ]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[ Price: 3.3, Total: 6.6, Cash: 1.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 10
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 3.3, Total: 6.6, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[ Price: 4.0, Total: 6.6, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$10.0 OF CASH IS RETURNED
[ Price: 4.0, Total: 6.6, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1
```

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 4.0, Total: 6.6, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Actual results do not match the expected results, thus Test #2 Failed

---

Test #3
Activate(6, 4), Credit(), Reject(), Credit(), Approved(), Cancel(), Cash(10), Diesel(), Start(), Stop(), Receipt(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:6, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:6, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:6, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:6, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:6, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:6, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:6, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 6
Enter value d: 4
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method

```
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 3
Reject() Method
CREDIT CARD IS REJECTED.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 6.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 10
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 10.0, Rprice: 6.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[ Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 6.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 6.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
$10.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[ Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 6.0, Dprice: 4.0, K: 6.0 ]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
RECEIPT IS PRINTED:
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 6.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: e
```

TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 6.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Actual results do not match the expected results, thus Test #3 Failed

---

Test #4
Activate(4, 5), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:4, Dprice:5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:4, Dprice:5, K:0 ]
```

Actual:
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 4
Enter value d: 5
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 4.0, Dprice: 5.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 4.0, Dprice: 5.0, K: -2.0]The value returned by the method: 1
Actual results do not match the expected results, thus Test #4 Failed because k value is not set to -2 in the actual implementation code on TurnOff() call

---

Test #5
Activate(3.0, 4.0), Credit(), Reject(), Cash(5.0), Cancel(), Cash(10), Diesel(), Cancel(), Cash(4), Regular(), Start(), Pump(), Stop(), NoReceipt(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:4, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:4, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:4, Rprice:3, Dprice:4, K:0 ]
```

```
[ Price:3, Total:3, Cash:4, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:3, Cash:4, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:3, Cash:4, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:3, Cash:4, Rprice:3, Dprice:4, K:0 ]
```

Actual

```
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 3
Reject() Method
CREDIT CARD IS REJECTED.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 5.0
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$5.0 OF CASH IS RETURNED
[ Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 10
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[ Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$10.0 OF CASH IS RETURNED
[ Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 4
```

SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 4.0, Total: 0.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.0, Total: 0.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 3.0, Total: 0.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
OF GALLONS PUMPED: 1
TOTAL CHARGE: $3.0
CONTINUE PUMPING
[Price: 3.0, Total: 3.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
OF GALLONS PUMPED: 1
TOTAL CHARGE: $3.0
$1.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[Price: 3.0, Total: 3.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[Price: 3.0, Total: 3.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 3.0, Total: 3.0, Cash: 4.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Actual results do not match the expected results, thus this test Failed because k value is not set to -2 in the actual implementation code

Test #6

Activate(3.5, 4.0), Credit(), Approved(), Cancel(), Credit(), Approved(), Diesel(), Cancel(), Cash(1), Regular(), Cancel(),
Credit(), Reject(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:1 ]
```

```
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:1 ]
[ Price:4, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:1 ]
[ Price:4, Total:0, Cash:0, Rprice:3.5, Dprice:4, K:1 ]
[ Price:4, Total:0, Cash:1, Rprice:3.5, Dprice:4, K:0 ]
[ Price:3.5, Total:0, Cash:1, Rprice:3.5, Dprice:4, K:0 ]
[ Price:3.5, Total:0, Cash:1, Rprice:3.5, Dprice:4, K:0 ]
[ Price:3.5, Total:0, Cash:1, Rprice:3.5, Dprice:4, K:0 ]
[ Price:3.5, Total:0, Cash:1, Rprice:3.5, Dprice:4, K:0 ]
[ Price:3.5, Total:0, Cash:1, Rprice:3.5, Dprice:4, K:0 ]
```

Actual:

Activate(float a, float d) Method
Enter value a: 3.5
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method

TRANSACTION IS CANCELLED.
[Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 1
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 4.0, Total: 0.0, Cash: 1.0, Rprice: 3.5, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.5, Total: 0.0, Cash: 1.0, Rprice: 3.5, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$1.0 OF CASH IS RETURNED
[Price: 3.5, Total: 0.0, Cash: 1.0, Rprice: 3.5, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 3.5, Total: 0.0, Cash: 1.0, Rprice: 3.5, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 3
Reject() Method
CREDIT CARD IS REJECTED.
[Price: 3.5, Total: 0.0, Cash: 1.0, Rprice: 3.5, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 3.5, Total: 0.0, Cash: 1.0, Rprice: 3.5, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #7

Activate(3.0, 4.0), Credit(), Approved(), Diesel(), Start(), Stop(), Receipt(), Cash(40), Diesel(), Start(),Pump(), Stop(), NoReceipt()

Expected:

[Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0]
[Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0]
[Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]
[Price:4, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]
[Price:4, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]
[Price:4, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]
[Price:4, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]
[Price:4, Total:0, Cash:40, Rprice:3, Dprice:4, K:0]
[Price:4, Total:0, Cash:40, Rprice:3, Dprice:4, K:0]
[Price:4, Total:0, Cash:40, Rprice:3, Dprice:4, K:0]
[Price:4, Total:4, Cash:40, Rprice:3, Dprice:4, K:0]

[Price:4, Total:4, Cash:40, Rprice:3, Dprice:4, K:0]

[Price:4, Total:4, Cash:40, Rprice:3, Dprice:4, K:0]

Actual:

```
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[ Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
DO YOU WANT A RECEIPT?
[ Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 6.0 ]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
RECEIPT IS PRINTED:
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 40
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 4.0, Total: 0.0, Cash: 40.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[ Price: 4.0, Total: 0.0, Cash: 40.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 4.0, Total: 0.0, Cash: 40.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1
```

Enter an Operation to perform: a
Pump() Method
OF GALLONS PUMPED: 1
TOTAL CHARGE: $4.0
CONTINUE PUMPING
[Price: 4.0, Total: 4.0, Cash: 40.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
OF GALLONS PUMPED: 1
TOTAL CHARGE: $4.0
$36.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[Price: 4.0, Total: 4.0, Cash: 40.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[Price: 4.0, Total: 4.0, Cash: 40.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Actual results do not match the expected results, thus this Test Failed because k value is not set to -2 in the actual implementation code

Test #8

Activate(-3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
```

Actual:

Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: 4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 2

Credit() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 4
Cancel() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 7
Regular() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 8
Diesel() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: d
Receipt() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Actual results do not match the expected results, thus this Test Failed because k value is -1 after the entire transition test case in the actual implementation code

---

Test #9

Activate(3.0, 4.0), **Activate(-3.0, 4.0), Reject(), Cancel(), Approved(), Cash(-2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt()**

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: 4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 4
Cancel() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: -2
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method

REGULAR IS SELECTED.
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
PUMP STOPPED. NOT SUFFICIENT FUNDS.
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
DO YOU WANT A RECEIPT?
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
[Price: 3.0, Total: 0.0, Cash: -2.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Actual results do not match the expected results, thus this Test Failed because k internal value state change in the actual implementation code

---

Test #10

Activate(3.0, 4.0), Credit(), Approved(), Regular(), Start(), **Activate(-3.0, 4.0), Reject(), Cancel(), Approved(), Cash(-2), Regular(), Diesel(), Start(), NoReceipt(), Receipt()**

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

[Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]

[Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]

[Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]

[Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]

[Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1]

Actual:

Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: 4.0
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 0

Enter an Operation to perform: 4
Cancel() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: -2
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 0

Enter an Operation to perform: 7
Regular() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 0

```
Enter an Operation to perform: 8
Diesel() Method
[ Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
[ Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[ Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 0

Enter an Operation to perform: d
Receipt() Method
[ Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 0
```

Test #11

Activate(3.0, 4.0), Credit(), **Activate(3.0, 4.0), Credit(), Cancel(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(),** NoReceipt(), **Receipt(), TurnOff()**

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
```

Actual:

```
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 0
```

Enter an Operation to perform: 2
Credit() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 7
Regular() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 8
Diesel() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: d
Receipt() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Test #12

Activate(3.0, 4.0), Credit(), Approved(), **Activate(3.0, 4.0), Credit(), Reject(), Approved(), Cash(2), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()**

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: 2
Credit() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 0
```

Enter an Operation to perform: d
Receipt() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 0

Test #13
Activate(3.0, 4.0), Credit(), Approved(), Regular(), **Activate(3.0, 4.0), Credit(), Reject(), Approved(), Cash(2), Regular(), Diesel(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()**

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:

a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 2
Credit() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 7
Regular() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: 8
Diesel() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: d
Receipt() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[Price: 3.3, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 0

Test #14

Activate(3.0, 4.0), Cash(5),Regular(), Start()

Activate(3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), NoReceipt(), Receipt(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
```

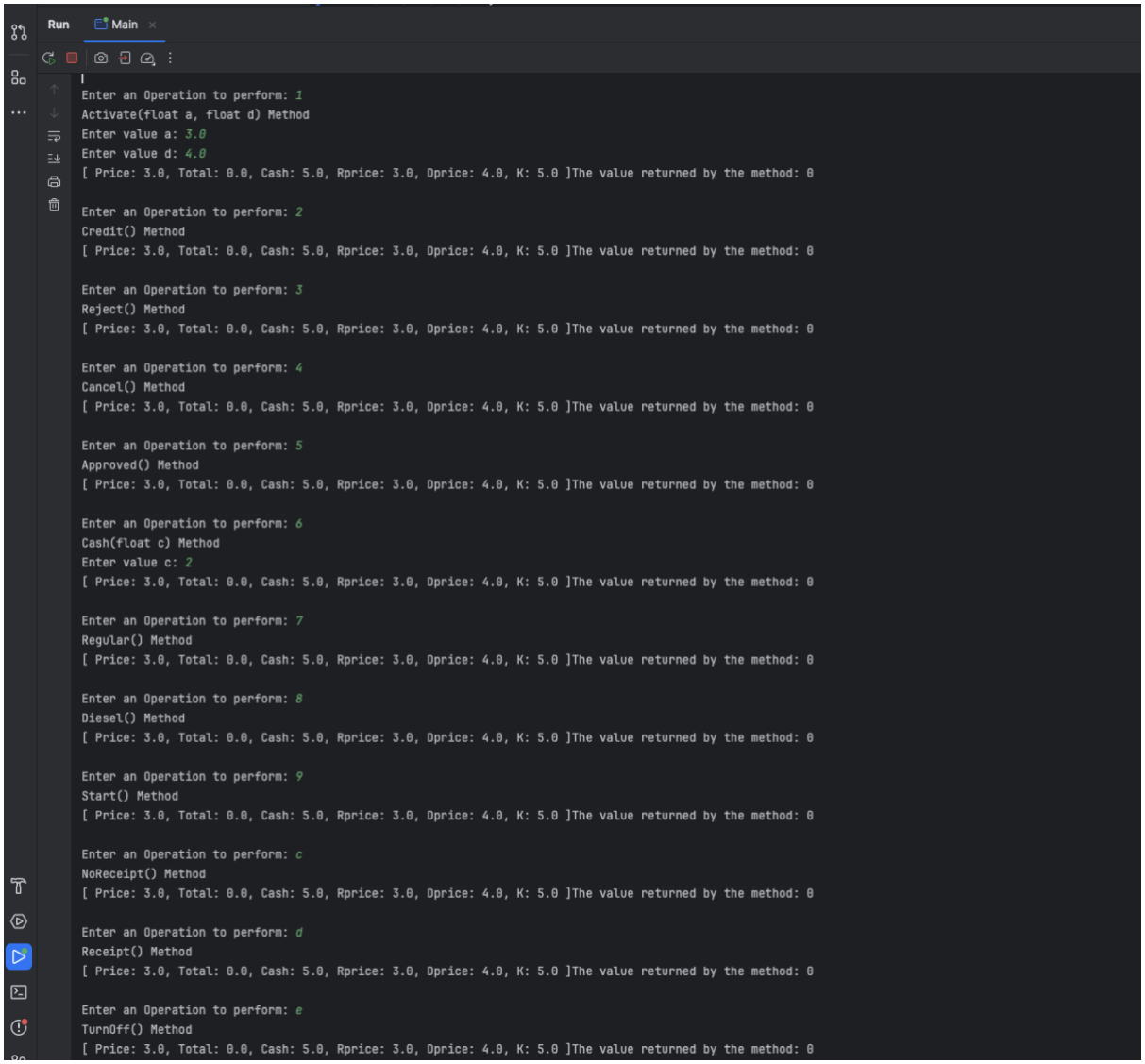
Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 5
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1
```



Test #15

Activate(3.0, 4.0), Cash(5),Regular(), Start(), Stop()

Activate(3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
```

```
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 5
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
$5.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 2
Credit() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 4

Cancel() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 7
Regular() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 8
Diesel() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Test #16

Activate(3.0, 4.0), Cash(5),Regular(), Start(), Stop(), NoReceipt(), TurnOff(), **Activate(3.0, 4.0), Credit(), Reject(), Cancel(), Approved(), Cash(2), Regular(), Diesel(), Start(), Pump(), Stop(), NoReceipt(), Receipt(), TurnOff()**

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
```

```
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:3, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 5
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
$5.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 6.0 ]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 2
```

```
Credit() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 4
Cancel() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 7
Regular() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 8
Diesel() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: d
Receipt() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[ Price: 3.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 0
```

Test #17

Activate(3.0, 4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

```
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 1
```

Test #18

Activate(-3.0, 4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
```

```
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 1

Enter an Operation to perform: q
Program Instance quited...
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0 ]The value returned by the method: 0

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0 ]The value returned by the method: 1
```

Test #19

Activate(3.0, -4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0 ]
```

[Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0]

[Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0]

[Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0]

[Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0]

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: -4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #20
Activate(-3.0, -4.0), Activate(3.0, 4.0), Cash(20), Cancel(), TurnOff()

Expected:

[Price:0, Total:0, Cash:0, Rprice:0, Dprice:0, K:0]

[Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0]

[Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0]

[Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0]

[Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0]

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: -4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 0.0, Dprice: 0.0, K: -1.0]The value returned by the method: 0

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3
Enter value d: 4
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #21

Activate(3.0, 4.0), **Activate(3.0, 4.0),** Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #22
Activate(3.0, 4.0), **Activate(-3.0, 4.0),** Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: 4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #23
Activate(3.0, 4.0), **Activate(3.0, -4.0),** Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: -4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF

[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #24
Activate(3.0, 4.0), **Activate(-3.0, -4.0),** Cash(20), Cancel(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: -3.0
Enter value d: -4.0
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Test #25: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Reject()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 0

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
CREDIT CARD IS REJECTED.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1
```

Test #26: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Reject(), Reject()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 0

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 0

Enter an Operation to perform: 3
Reject() Method
CREDIT CARD IS REJECTED.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 3
Reject() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 0
```

Test #27: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Approved(), Cancel();

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 1
Activate(float a, float d) Method
```

```
Enter value a: 3.0
Enter value d: 4.0
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 0

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1
```

Test #28: Activate(3.0, 4.0), Activate(3.0, 4.0), Credit(), Credit(), Approved(), Cancel(), Cancel()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 3.0
Error: Invalid input
Enter an Operation to perform: 4.0
Error: Invalid input
```

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 0

Test #29: Activate(5.0, 6.0), Credit(), Approved(), Regular(), Start(), Pump(), Pump(), Stop(), Receipt(), Cash(20), Regular(), Cancel(), Credit()

Expected:

[Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0]
[Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0]
[Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:0, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:0, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:5.5, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:11, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:11, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:11, Cash:0, Rprice:5, Dprice:6, K:1]
[Price:5, Total:11, Cash:20, Rprice:5, Dprice:6, K:0]
[Price:5, Total:11, Cash:20, Rprice:5, Dprice:6, K:0]
[Price:5, Total:11, Cash:20, Rprice:5, Dprice:6, K:0]
[Price:5, Total:11, Cash:20, Rprice:5, Dprice:6, K:0]

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method

```
Enter value a: 5.0
Enter value d: 6.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 5.5, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 5.5, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 1
TOTAL CHARGE: $5.5
CONTINUE PUMPING
[ Price: 5.5, Total: 5.5, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 2
TOTAL CHARGE: $11.0
CONTINUE PUMPING
[ Price: 5.5, Total: 11.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 2
TOTAL CHARGE: $11.0
DO YOU WANT A RECEIPT?
[ Price: 5.5, Total: 11.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 6.0 ]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
RECEIPT IS PRINTED:
# OF GALLONS PUMPED: 2
TOTAL CHARGE: $11.0
[ Price: 5.5, Total: 11.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
```

a. REGULAR
b. DIESEL
[Price: 5.5, Total: 11.0, Cash: 20.0, Rprice: 5.0, Dprice: 6.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 5.0, Total: 11.0, Cash: 20.0, Rprice: 5.0, Dprice: 6.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[Price: 5.0, Total: 11.0, Cash: 20.0, Rprice: 5.0, Dprice: 6.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 5.0, Total: 11.0, Cash: 20.0, Rprice: 5.0, Dprice: 6.0, K: 2.0]The value returned by the method: 1

Test #30: Activate(5.0, 6.0), Credit(), Approved(), Cancel()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 5.0
Enter value d: 6.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0]The value returned by the method: 1

Test #31: Activate(3.5, 4.5), Approved(), Cash(-20), Regular(), Receipt() , TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.5, Dprice:4.5, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.5
Enter value d: 4.5
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.5, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.5, Dprice: 4.5, K: 0.0 ]The value returned by the method: 0

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: -20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: -20.0, Rprice: 3.5, Dprice: 4.5, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.5, Total: 0.0, Cash: -20.0, Rprice: 3.5, Dprice: 4.5, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
[ Price: 3.5, Total: 0.0, Cash: -20.0, Rprice: 3.5, Dprice: 4.5, K: 4.0 ]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[ Price: 3.5, Total: 0.0, Cash: -20.0, Rprice: 3.5, Dprice: 4.5, K: 4.0 ]The value returned by the method: 0
```

Test #32: Activate(3.3, 4.4), Credit(), Approved(), Regular(), Start(), Cash(-20), Stop(), NoReceipt(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
[ Price:3.3, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
[ Price:3.3, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
[ Price:3.3, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
[ Price:3.3, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
[ Price:3.3, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
[ Price:3.3, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:1 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.3
Enter value d: 4.4
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.6, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 3.6, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: -20
[ Price: 3.6, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 5.0 ]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
DO YOU WANT A RECEIPT?
```

[Price: 3.6299999, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[Price: 3.6, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 3.62, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: -2.0]The value returned by the method: 1

Test #33: Activate(2.6, 3.1), Credit(), Regular(), Diesel(), Start(), Approved(), Regular(), Cancel(), TurnOff()

Expected:

[Price:0, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:0]
[Price:0, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:0]
[Price:0, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:0]
[Price:0, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:0]
[Price:0, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:0]
[Price:0, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:1]
[Price:2.6, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:1]
[Price:2.6, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:1]
[Price:2.6, Total:0, Cash:0, Rprice:2.6, Dprice:3.1, K:1]

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 2.6
Enter value d: 3.1
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 8
Diesel() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 9
Start() Method

[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 2.0]The value returned by the method: 0

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 2.86, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
[Price: 2.86, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 2.86, Total: 0.0, Cash: 0.0, Rprice: 2.6, Dprice: 3.1, K: -2.0]The value returned by the method: 1

Test #34: Activate(5.0, 6.0), Credit(), Approved(), Regular(), Start(), Pump(), Pump(), Stop(), Receipt(), Cash(20), Diesel()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:5.5, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:11, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:11, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:11, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:11, Cash:20, Rprice:5, Dprice:6, K:0 ]
[ Price:6, Total:11, Cash:20, Rprice:5, Dprice:6, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 5.0
Enter value d: 6.0
GAS PUMP IS ON

[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 5.5, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 5.5, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
OF GALLONS PUMPED: 1
TOTAL CHARGE: $5.5
CONTINUE PUMPING
[Price: 5.5, Total: 5.5, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
OF GALLONS PUMPED: 2
TOTAL CHARGE: $11.0
CONTINUE PUMPING
[Price: 5.5, Total: 11.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
OF GALLONS PUMPED: 2
TOTAL CHARGE: $11.0
DO YOU WANT A RECEIPT?
[Price: 5.5, Total: 11.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
RECEIPT IS PRINTED:
OF GALLONS PUMPED: 2
TOTAL CHARGE: $11.0
[Price: 5.5, Total: 11.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 5.5, Total: 11.0, Cash: 20.0, Rprice: 5.0, Dprice: 6.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[Price: 6.0, Total: 11.0, Cash: 20.0, Rprice: 5.0, Dprice: 6.0, K: 4.0]The value returned by the method: 1

Test #35: Activate(5.0, 6.0), Credit(), Approved(), Regular(), Start(), Pump(), Stop();

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:0, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:5.5, Cash:0, Rprice:5, Dprice:6, K:1 ]
[ Price:5, Total:5.5, Cash:0, Rprice:5, Dprice:6, K:1 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 5.0
Enter value d: 6.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 5.5, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 5.5, Total: 0.0, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a

Pump() Method
OF GALLONS PUMPED: 1
TOTAL CHARGE: $5.5
CONTINUE PUMPING
[Price: 5.5, Total: 5.5, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
OF GALLONS PUMPED: 1
TOTAL CHARGE: $5.5
DO YOU WANT A RECEIPT?
[Price: 5.5, Total: 5.5, Cash: 0.0, Rprice: 5.0, Dprice: 6.0, K: 6.0]The value returned by the method: 1

Test #36: Activate(3, 3.5), Pump(), Stop(), NoReceipt(), TurnOff()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:3.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:3.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:3.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:3.5, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:3.5, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3
Enter value d: 3.5
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 3.5, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 3.5, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 3.5, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 3.5, K: 0.0]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 3.5, K: -2.0]The value returned by the method: 1

Actual results do not match the expected results, thus this Test Failed because k internal value state change in the actual implementation code

Test #37: Activate(3, 4), Cash(20), Cancel(), Credit(), Approved(), Regular(), Start(), Pump(), Stop()

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:20, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:20, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:0, Cash:20, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:3, Cash:20, Rprice:3, Dprice:4, K:1 ]
[ Price:3, Total:3, Cash:20, Rprice:3, Dprice:4, K:1 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3
Enter value d: 4
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 20
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$20.0 OF CASH IS RETURNED
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1
```

```
Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[ Price: 3.3, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 3.3, Total: 0.0, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 1
TOTAL CHARGE: $3.3
CONTINUE PUMPING
[ Price: 3.3, Total: 3.3, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
PUMP STOPPED.
# OF GALLONS PUMPED: 1
TOTAL CHARGE: $3.3
DO YOU WANT A RECEIPT?
[ Price: 3.3, Total: 3.3, Cash: 20.0, Rprice: 3.0, Dprice: 4.0, K: 6.0 ]The value returned by the method: 1
```

Test #39: Activate(3.3, 4.4), Cash(1.1f), Regular(), Start(), Pump(), NoReceipt(), Credit();

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:0, Total:0, Cash:1.1, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:3.3, Total:0, Cash:1.1, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:3.3, Total:0, Cash:1.1, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:3.3, Total:0, Cash:1.1, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:3.3, Total:0, Cash:1.1, Rprice:3.3, Dprice:4.4, K:0 ]
[ Price:3.3, Total:0, Cash:1.1, Rprice:3.3, Dprice:4.4, K:0 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.3
Enter value d: 4.4
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.3, Dprice: 4.4, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 1.1
SELECT TYPE OF GASOLINE:
a. REGULAR
```

b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 1.1, Rprice: 3.3, Dprice: 4.4, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.3, Total: 0.0, Cash: 1.1, Rprice: 3.3, Dprice: 4.4, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 3.3, Total: 0.0, Cash: 1.1, Rprice: 3.3, Dprice: 4.4, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
PUMP STOPPED. NOT SUFFICIENT FUNDS.
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
$1.1 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[Price: 3.3, Total: 0.0, Cash: 1.1, Rprice: 3.3, Dprice: 4.4, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[Price: 3.3, Total: 0.0, Cash: 1.1, Rprice: 3.3, Dprice: 4.4, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 3.3, Total: 0.0, Cash: 1.1, Rprice: 3.3, Dprice: 4.4, K: 2.0]The value returned by the method: 1

Actual results do not match the expected results, thus this Test Failed because k internal value state change in the actual implementation code

---

Test #40: Activate(3.0f, 4.0f), Cash(2.0f), Diesel(), Start(); Pump(); Pump(); Pump(); Pump(), Stop();

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0 ]
```

[Price:4, Total:0, Cash:2, Rprice:3, Dprice:4, K:0]

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 2.0
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
PUMP STOPPED. NOT SUFFICIENT FUNDS.
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
$2.0 OF CASH IS RETURNED
DO YOU WANT A RECEIPT?
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: a
Pump() Method
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: b
Stop() Method
[Price: 4.0, Total: 0.0, Cash: 2.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Test #41: Activate(3.0f, 4.0f); Credit(); Reject(); Cash(5); Cancel(); Cash(10); Diesel(); Cancel(); Cash(-3); Regular();
Start(); Pump(); Stop(); NoReceipt(); TurnOff();

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:5, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
[ Price:4, Total:0, Cash:10, Rprice:3, Dprice:4, K:0 ]
```

Actual:

Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0]The value returned by the method: 1

Enter an Operation to perform: 3
Reject() Method
CREDIT CARD IS REJECTED.
[Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 5
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$5.0 OF CASH IS RETURNED

[Price: 0.0, Total: 0.0, Cash: 5.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: 10
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 0.0, Total: 0.0, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 4
Cancel() Method
TRANSACTION IS CANCELLED.
$10.0 OF CASH IS RETURNED
[Price: 4.0, Total: 0.0, Cash: 10.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: 6
Cash(float c) Method
Enter value c: -3
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[Price: 4.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: 3.0]The value returned by the method: 1

Enter an Operation to perform: 7
Regular() Method
REGULAR IS SELECTED.
[Price: 3.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: 4.0]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[Price: 3.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: 5.0]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
PUMP STOPPED. NOT SUFFICIENT FUNDS.
OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
DO YOU WANT A RECEIPT?
[Price: 3.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 1

Enter an Operation to perform: b
Stop() Method
[Price: 3.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: 6.0]The value returned by the method: 0

Enter an Operation to perform: c
NoReceipt() Method
NO RECEIPT IS PRINTED
[Price: 3.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: 0.0]The value returned by the method: 1

Enter an Operation to perform: e
TurnOff() Method
GAS PUMP IS TURNED OFF
[Price: 3.0, Total: 0.0, Cash: -3.0, Rprice: 3.0, Dprice: 4.0, K: -2.0]The value returned by the method: 1

Actual results do not match the expected results, thus this Test Failed because k internal value state change in the actual implementation code

---

Test #42: Activate(3.0f, 4.0f); Credit(); Approved(); Diesel(); Start(); Pump(); Pump(); Receipt(); TurnOff();

Expected:

```
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:0 ]
[ Price:0, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:4, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:4, Total:0, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:4, Total:4.4, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:4, Total:8.8, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:4, Total:8.8, Cash:0, Rprice:3, Dprice:4, K:1 ]
[ Price:4, Total:8.8, Cash:0, Rprice:3, Dprice:4, K:1 ]
```

Actual:

```
Enter an Operation to perform: 1
Activate(float a, float d) Method
Enter value a: 3.0
Enter value d: 4.0
GAS PUMP IS ON
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 0.0 ]The value returned by the method: 1

Enter an Operation to perform: 2
Credit() Method
CHECKING CREDIT CARD.
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 2.0 ]The value returned by the method: 1

Enter an Operation to perform: 5
Approved() Method
CREDIT CARD APPROVED.
SELECT TYPE OF GASOLINE:
a. REGULAR
b. DIESEL
[ Price: 0.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 3.0 ]The value returned by the method: 1

Enter an Operation to perform: 8
Diesel() Method
DIESEL IS SELECTED.
[ Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 4.0 ]The value returned by the method: 1

Enter an Operation to perform: 9
Start() Method
PUMP IS READY TO DISPOSE
# OF GALLONS PUMPED: 0
TOTAL CHARGE: $0.0
[ Price: 4.0, Total: 0.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1
```

```
Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 1
TOTAL CHARGE: $4.0
CONTINUE PUMPING
[ Price: 4.0, Total: 4.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: a
Pump() Method
# OF GALLONS PUMPED: 2
TOTAL CHARGE: $8.0
CONTINUE PUMPING
[ Price: 4.0, Total: 8.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 1

Enter an Operation to perform: d
Receipt() Method
[ Price: 4.0, Total: 8.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 0

Enter an Operation to perform: e
TurnOff() Method
[ Price: 4.0, Total: 8.0, Cash: 0.0, Rprice: 3.0, Dprice: 4.0, K: 5.0 ]The value returned by the method: 0
```

Actual results do not match the expected results, thus this Test Failed because k internal value state change in the actual implementation code

Conclusion

Defects in the **GasPump()** class source code have been identified through a combination of object-oriented and model-based testing. These issues lead to multiple test failures because the logic modifications are not aligned with the behavior outlined in the MDA-EFSM diagram.

For example, in the **Start()** method, the value of k is set directly to 5 after passing the if (k == 4) condition. This deviates from the expected behavior described in the EFSM diagram, where Start() should evaluate the value of k and transition to **state S5** if k == 0 (indicating cash payment) or **state S1** if k == 1 (indicating credit payment).

Additionally, the **GasPump()** source code lacks any implementation that sets k to 1. As a result, **state S1** is never reached during execution, and all operations intended for S1 are mistakenly routed to **state S5**, as reflected in the failed test cases highlighted earlier.

Despite these defects in the **Start()** method, they do not impact the overall calculations of the total dollar amount charged or the number of gallons pumped. This is because the defects in **Pump()** and **Stop()** methods compensate by only checking if k == 5 at their initial stages. According to the EFSM diagram, both methods should account for scenarios where **Start()** transitions to S1. Consequently, the logic flaw in **Start()** does not affect the final calculations performed by **Pump()** and **Stop()**.

Therefore, the discrepancies between the expected and actual results in the failed tests are limited to the state transitions during intermediate operations. The final outcomes for the total dollar amount charged and gallons pumped remain accurate. However, these defects may go

unnoticed during normal use of the **GasPump()** class, as they do not interfere with the calculation results.