

Start game

create a new  
game instance

Inform the user  
of his options.  
Wait for his first play

Start counting  
the user plays

Normal game loop

Is play > 10?

Yes

No

User gives the  
score of his first ball

Is value valid and  
bewteen 0 and 10?

No

Inform the user that the  
value is not accepted

Yes

Is value 10?

Yes

Print strike and  
set play type "STRIKE"

Round score = 10

No

User gives the score  
of his second ball

Is value valid and  
bewteen 0 and  
10 - first ball score?

No

Inform the user that the  
value is not accepted

Yes

Is total ball score  
(first ball + second ball)  
= 10

Yes

Print spare and  
set play type "SPARE"

Round score = 10

No

Set play type  
"NORMAL"

Round score  
=  
first ball + second ball

Add play counter

Is play 10 a  
Strinke?

Yes

User gives the score  
of first extra ball (0-10)

User gives the score  
of second extra ball (0-10)

No

Is play 10 a  
Spare?

User gives the score  
of one extra ball (0-10)

\*CalculateScore for the  
remaining extra plays

Show score  
to the user

Finish the game

Calculate score

is previous  
play a Spare?

No

Add to the previous  
play score the score  
of the first ball of the  
current play

Is previous  
play a Strike?

Yes

Is the play before  
also a strike?

No

Add to the previous  
play score the score  
of the first ball and the  
second ball of the current play

Add to the play  
before the value  
of the first ball of  
the current play