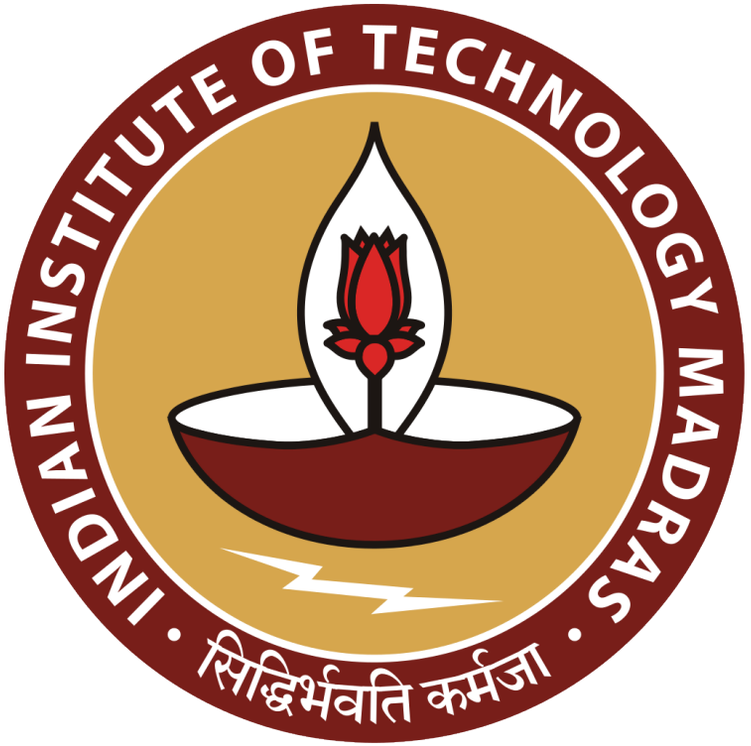


IIT Madras

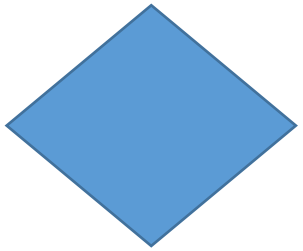
ONLINE DEGREE

Introduction to Flowcharts

Flowcharts: Some commonly used symbols

Process or Activity

Flowline or Arrow



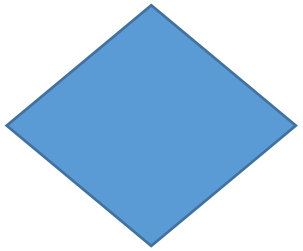
Decision

Terminal

Flowcharts: Some commonly used symbols

Process or Activity

Flowline or Arrow



Decision

Terminal

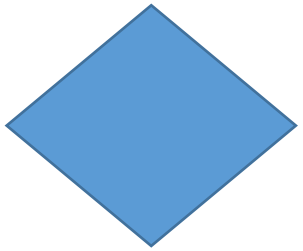
Set of operations that change the value of data (variables)

Flowcharts: Some commonly used symbols

Process or Activity

Flowline or Arrow

Shows the order of execution of the program steps



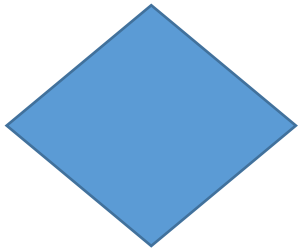
Decision

Terminal

Flowcharts: Some commonly used symbols

Process or Activity

Flowline or Arrow



Decision

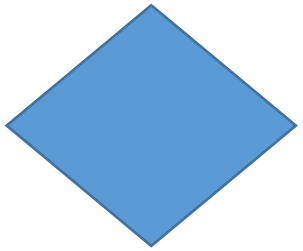
Determines which path the program will take

Terminal

Flowcharts: Some commonly used symbols

Process or Activity

Flowline or Arrow



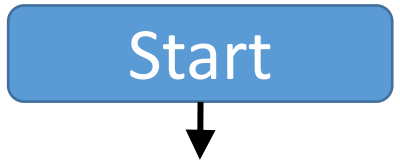
Decision

Terminal

Indicates the "Start" or "End" of the program

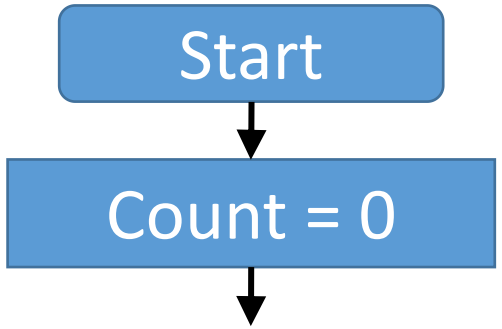
Flowchart for counting cards

Flowchart for counting cards



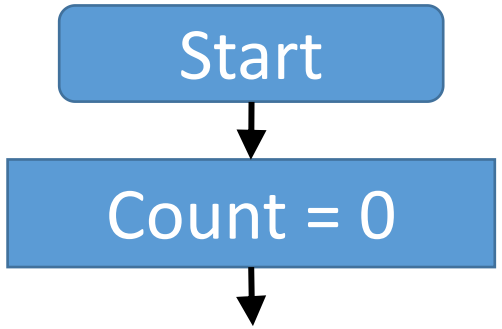
When we start, the cards are all assumed to be in a single pile - called Pile 1

Flowchart for counting cards



We initialise the count variable to 0

Flowchart for counting cards



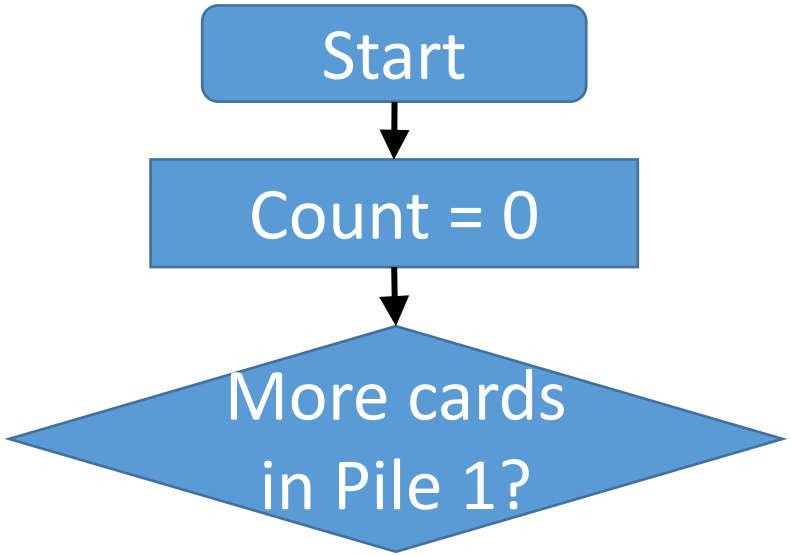
This is where the iterator starts.

We need to repeat the following steps:

- Pick a card from Pile 1
- Move it into a different pile (say Pile 2)
- Increment the value of count

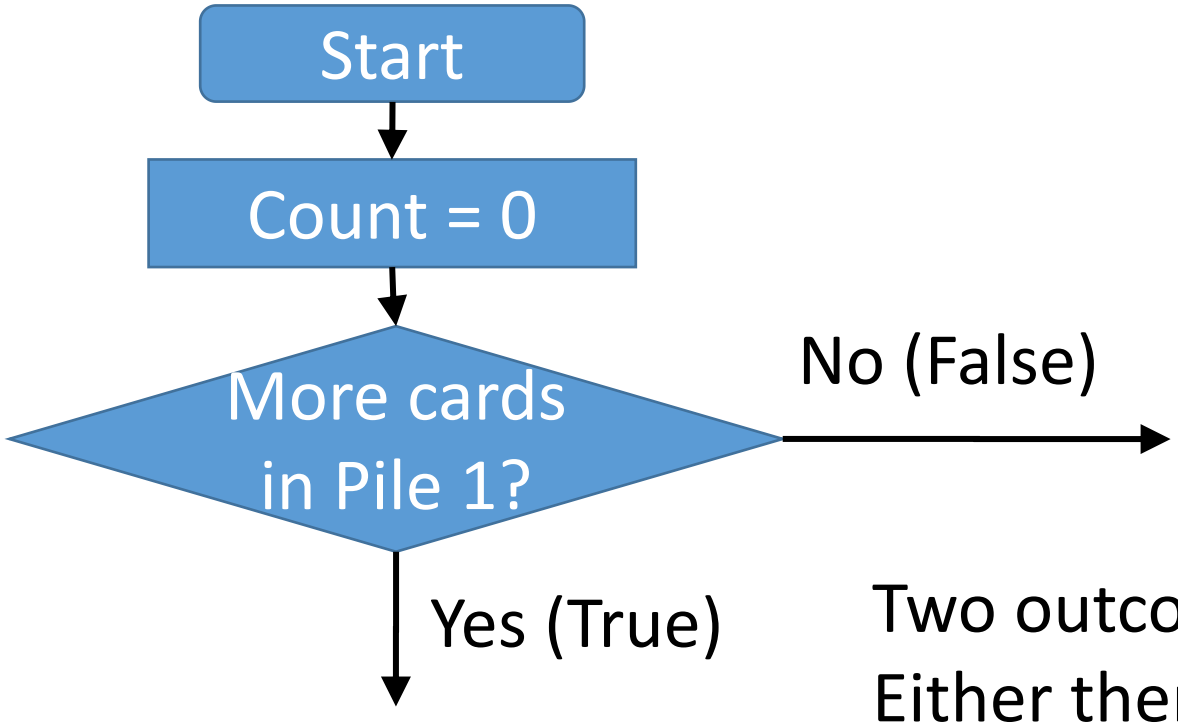
The iteration stops when Pile 1 is empty

Flowchart for counting cards



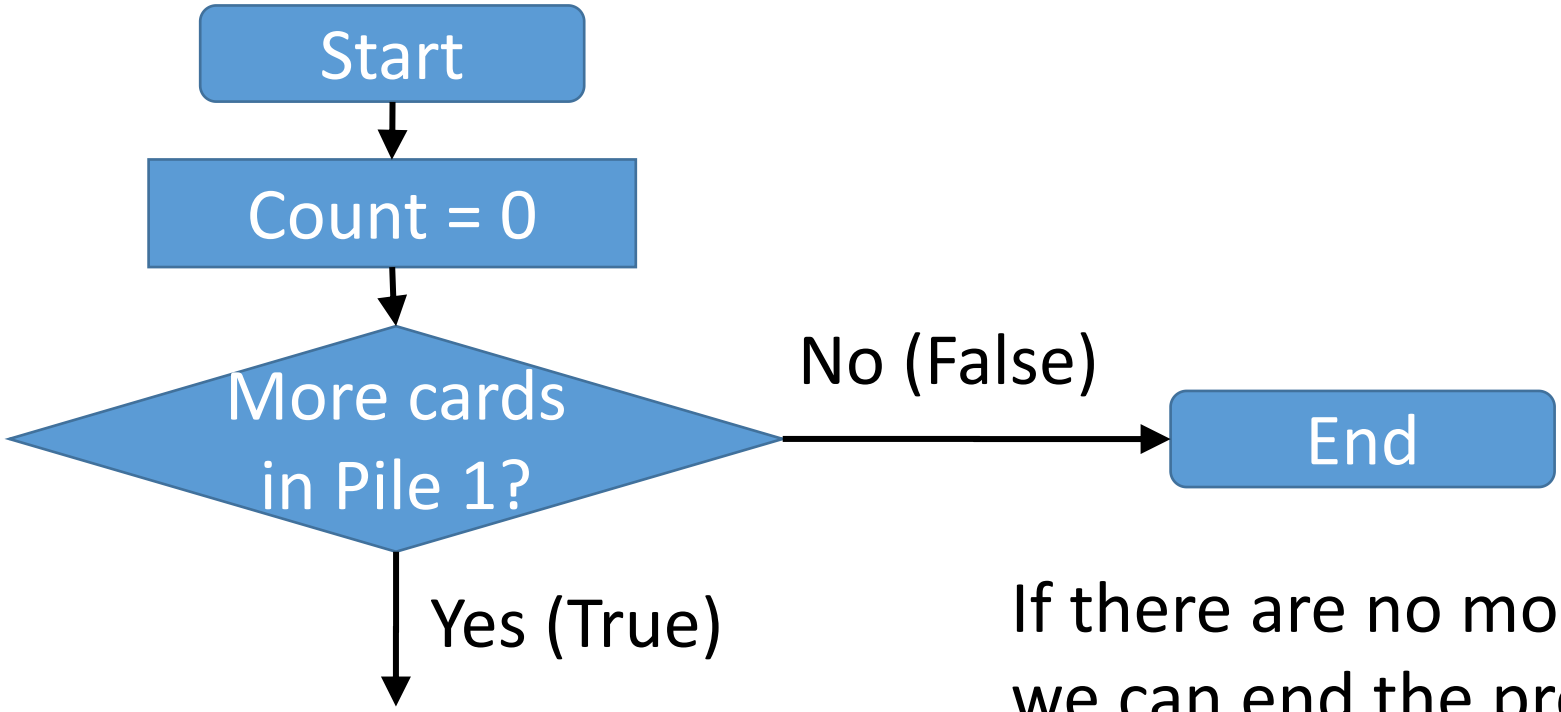
We need to pick a card from Pile 1
But we can do that only if there
are more cards in Pile 1 to pick !

Flowchart for counting cards



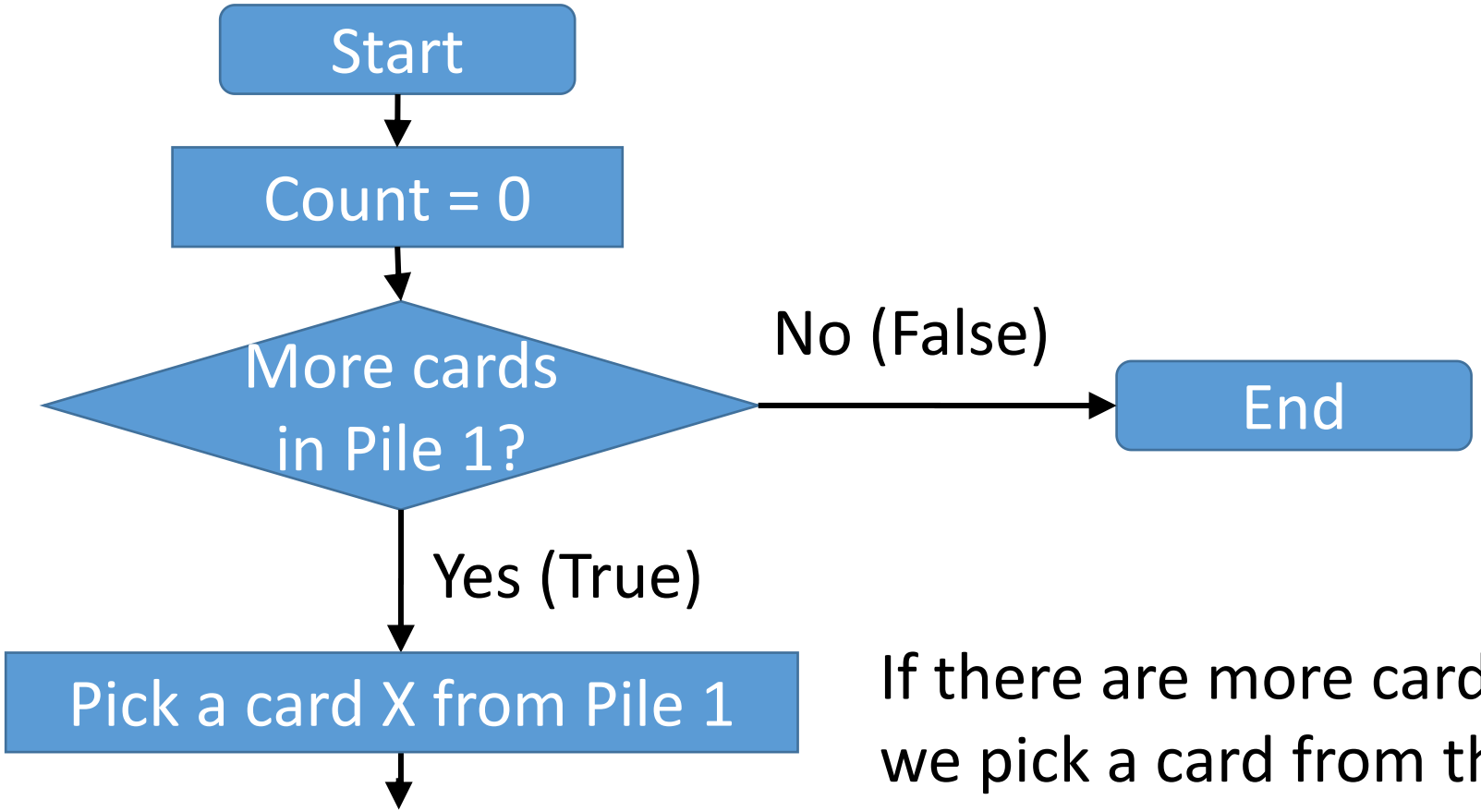
Two outcomes are possible here:
Either there are no more cards (condition = False) or there are more cards (condition = True)

Flowchart for counting cards



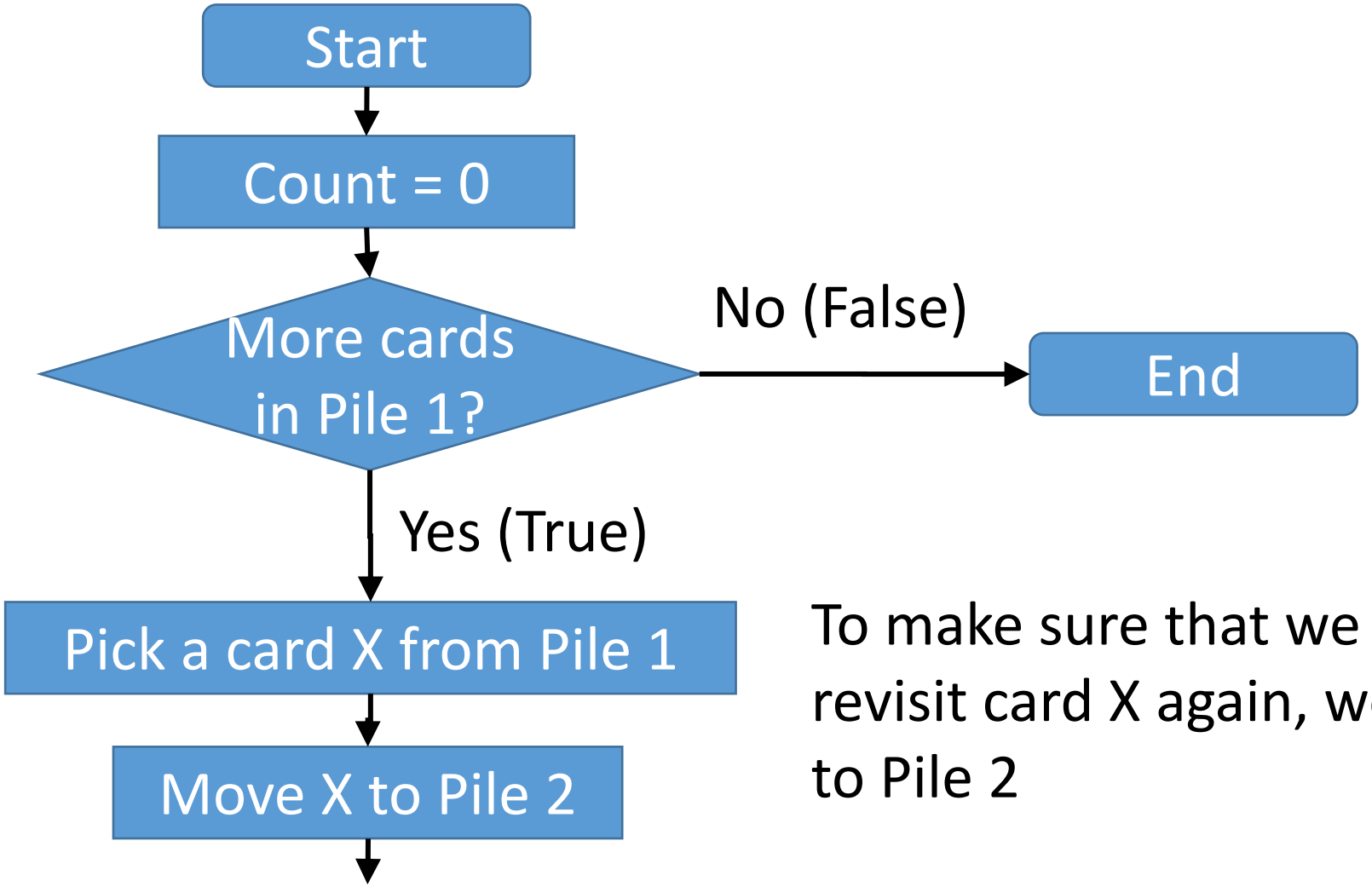
If there are no more cards we can end the program.
The variable count carries the required value.

Flowchart for counting cards



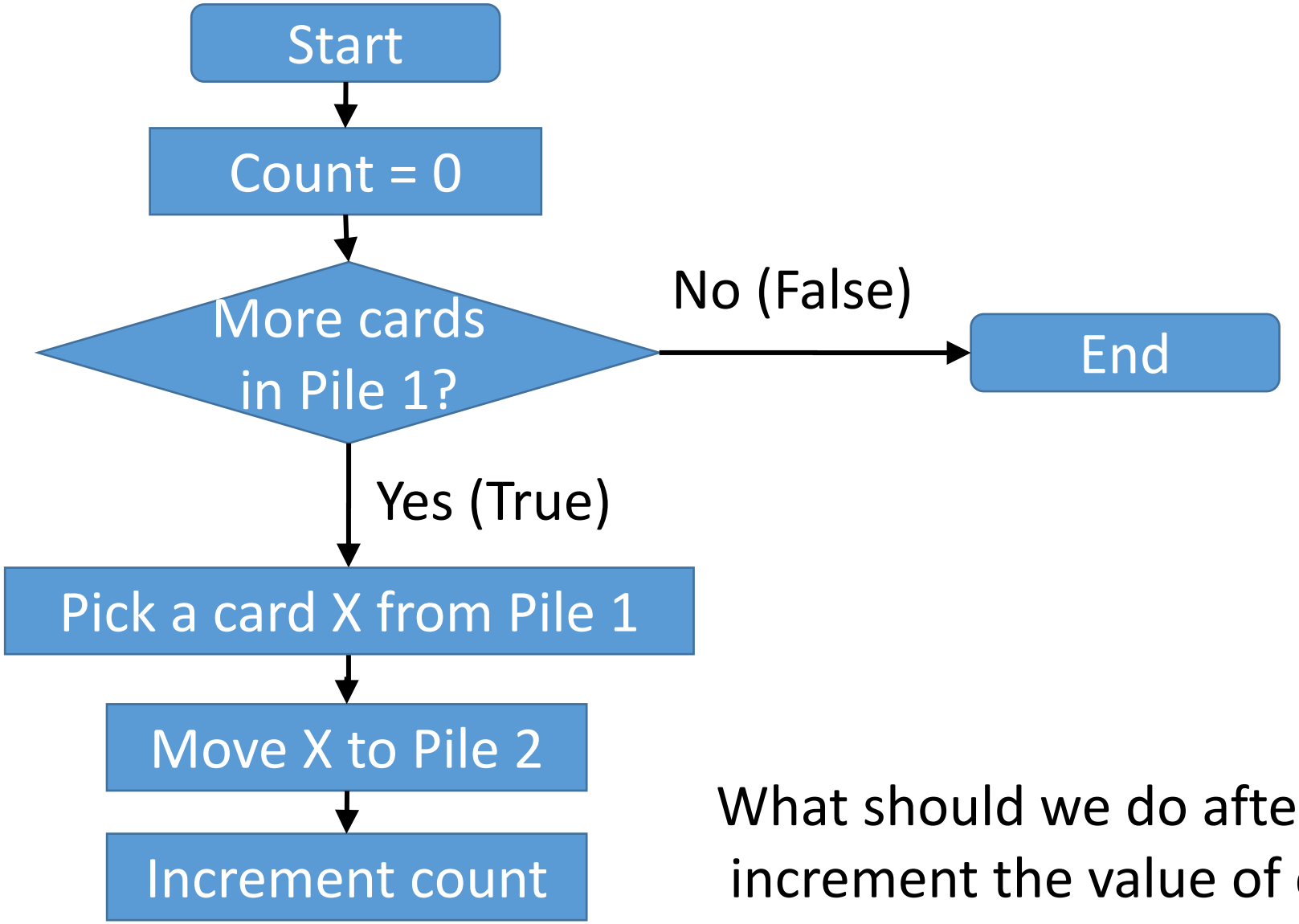
If there are more cards in Pile 1 we pick a card from the pile. Lets call this card X

Flowchart for counting cards



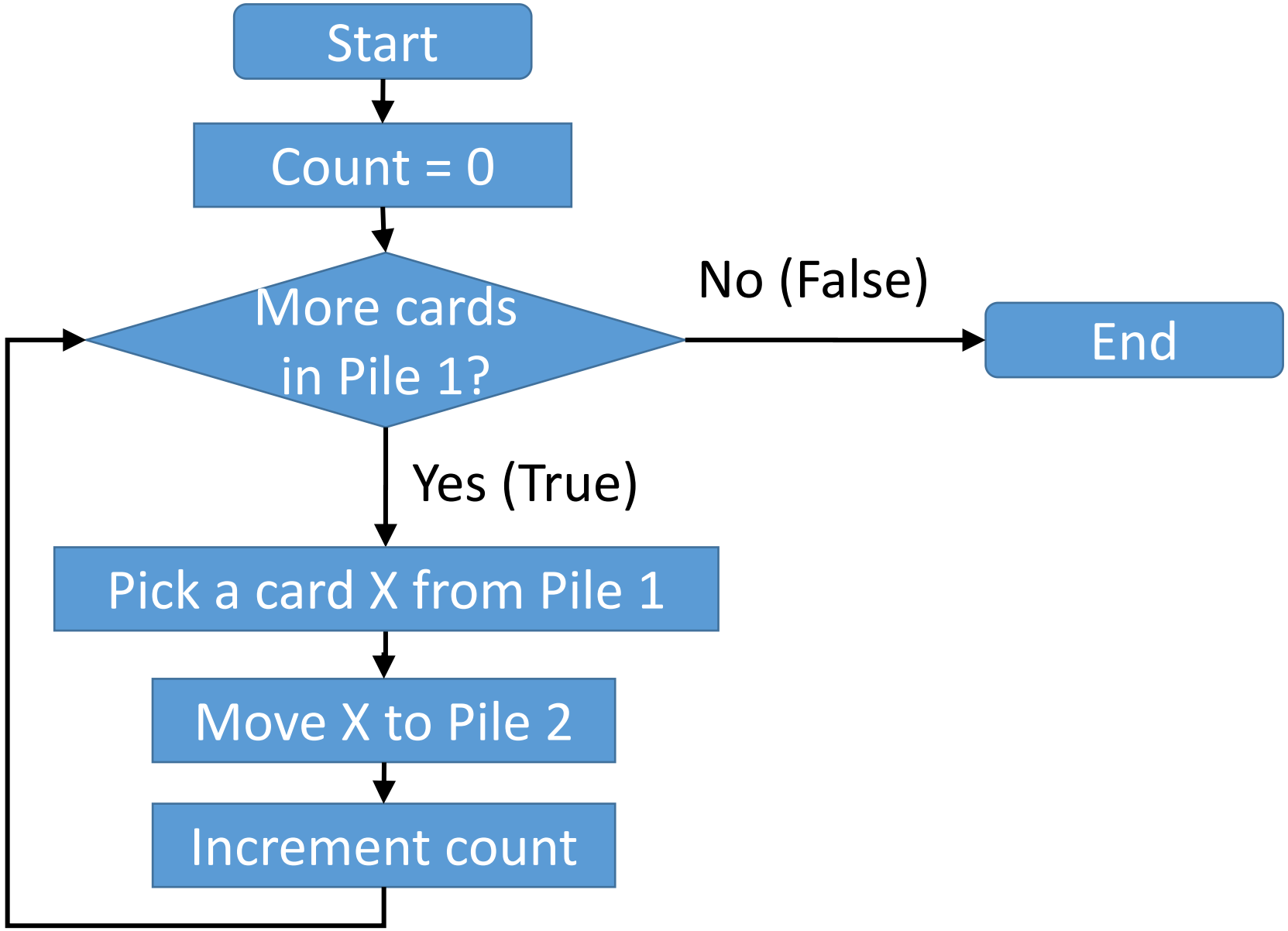
To make sure that we don't revisit card X again, we move it to Pile 2

Flowchart for counting cards



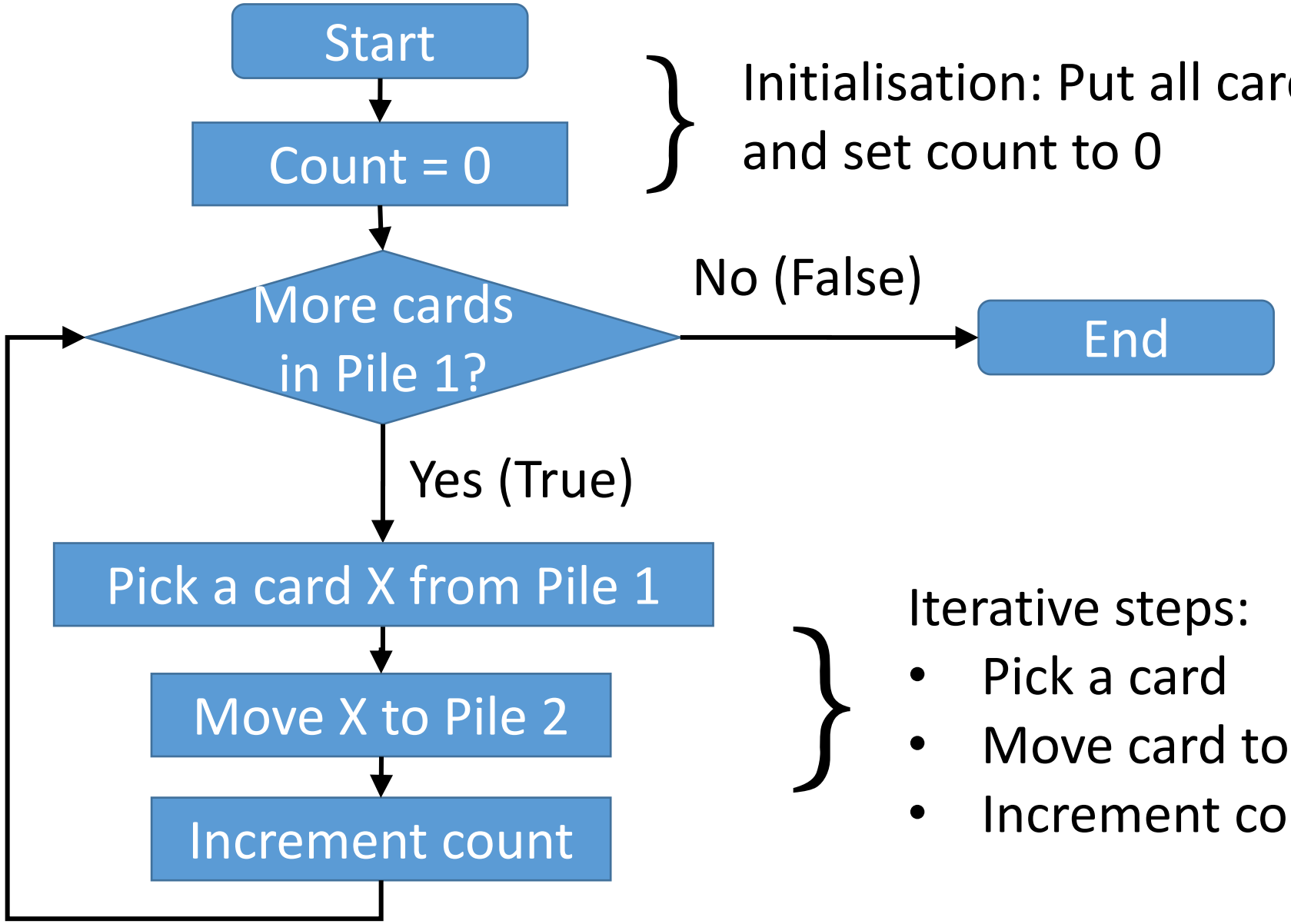
What should we do after we increment the value of count ?

Flowchart for counting cards



We go back to the beginning of the iteration !

Summary: Flowchart for counting cards



Initialisation: Put all cards in Pile 1 and set count to 0

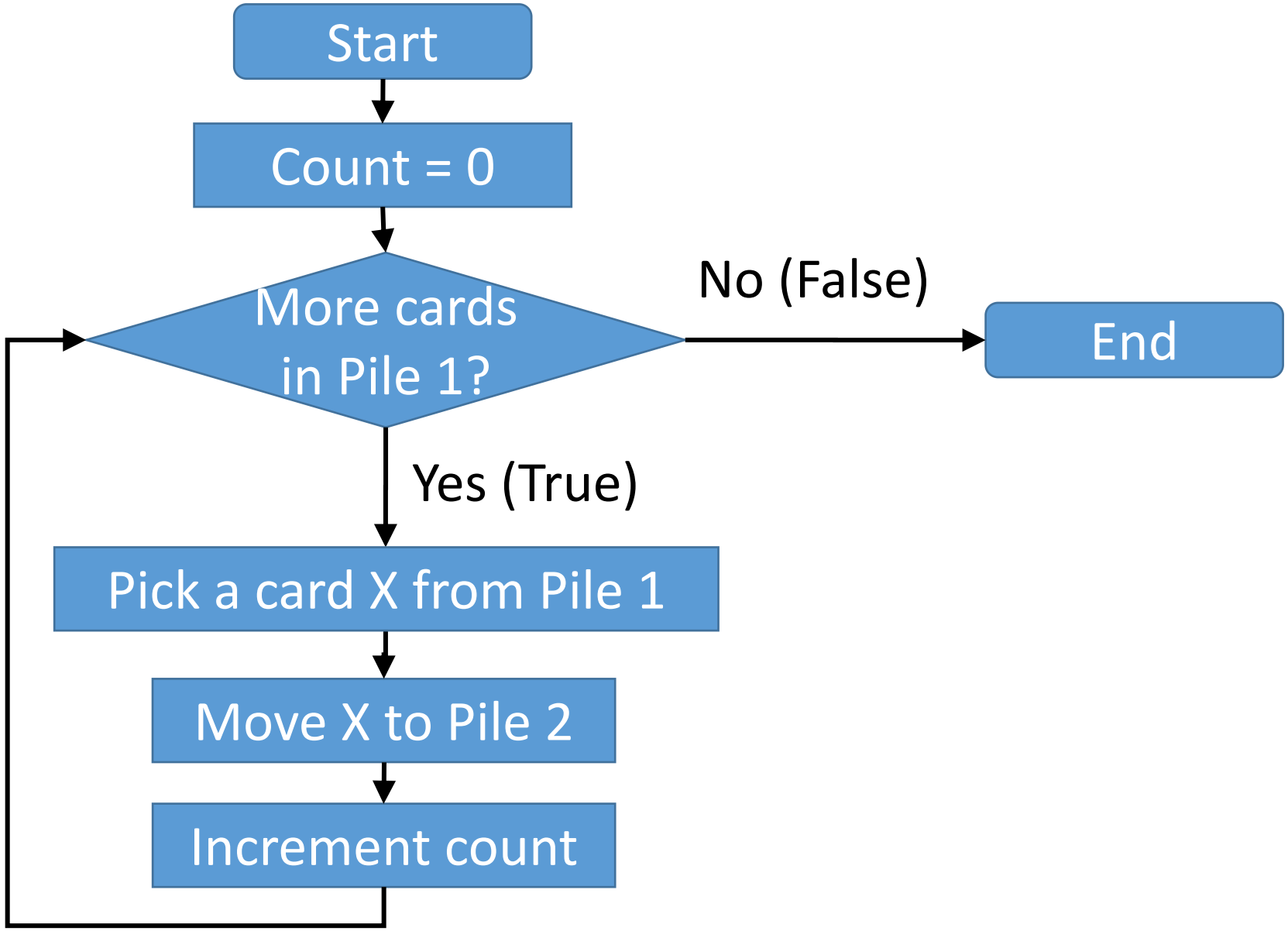
Iteration

Iterative steps:

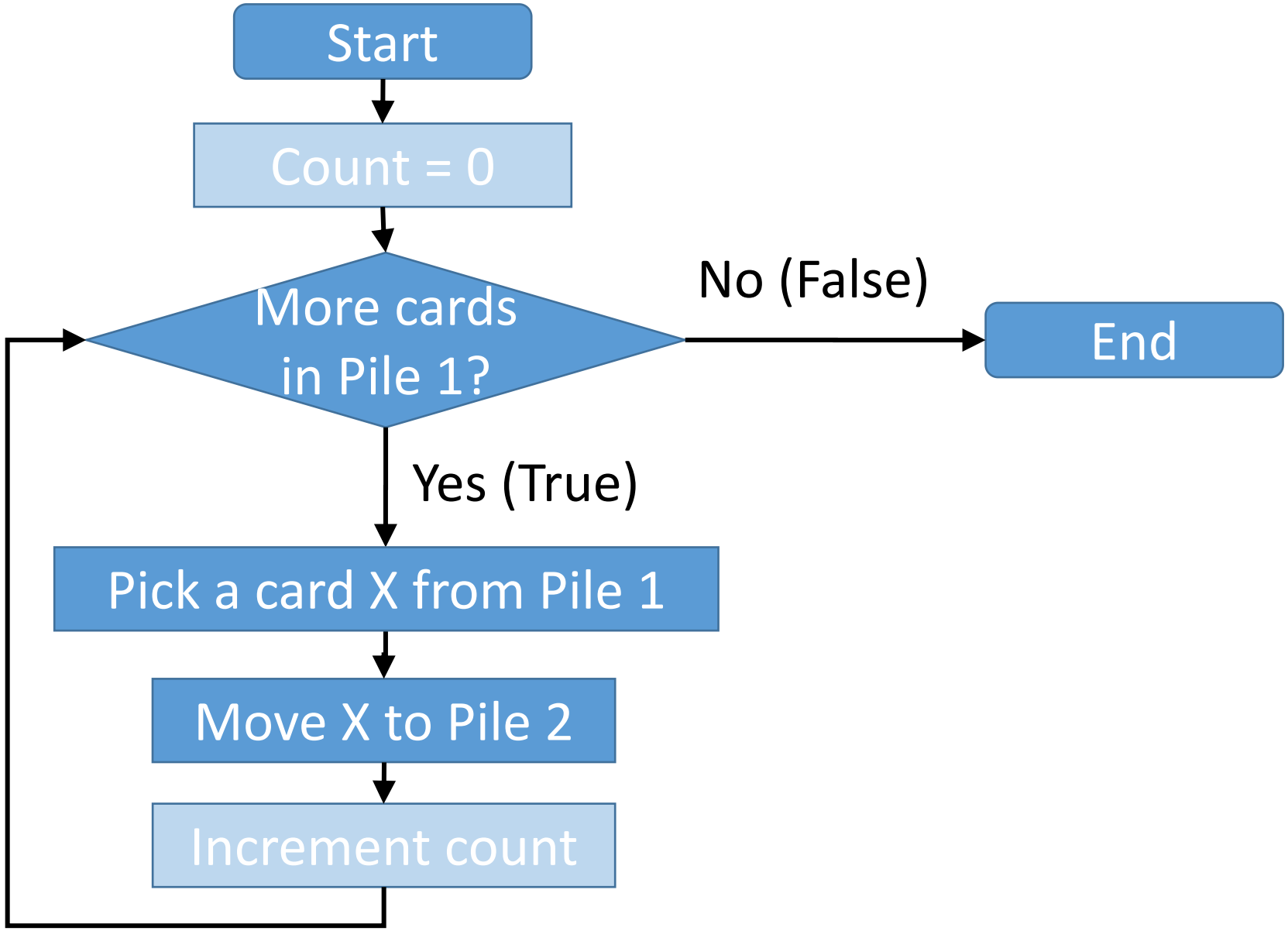
- Pick a card
- Move card to Pile 2
- Increment count

Flowchart for Sum of Maths Marks

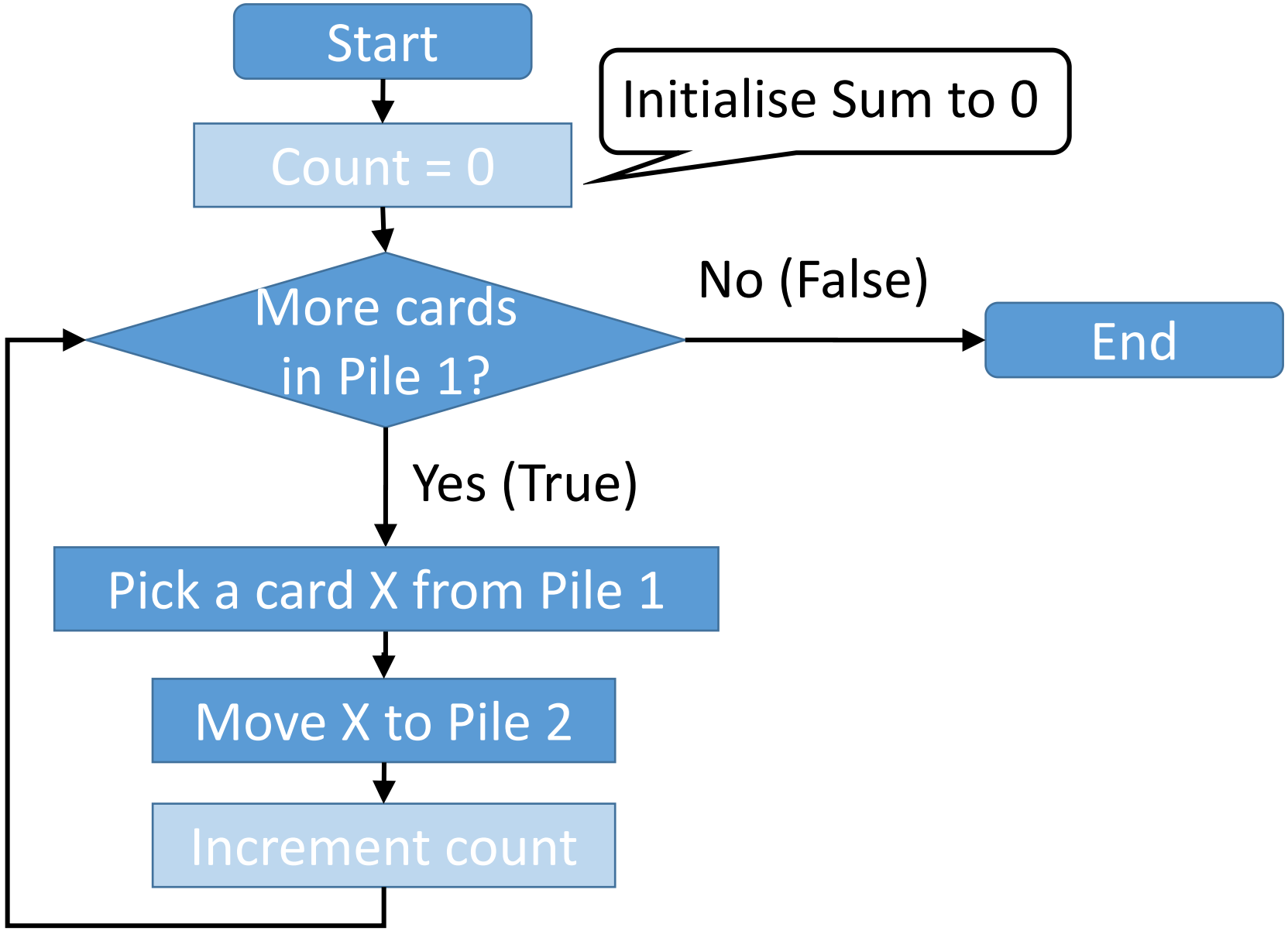
Flowchart for counting cards



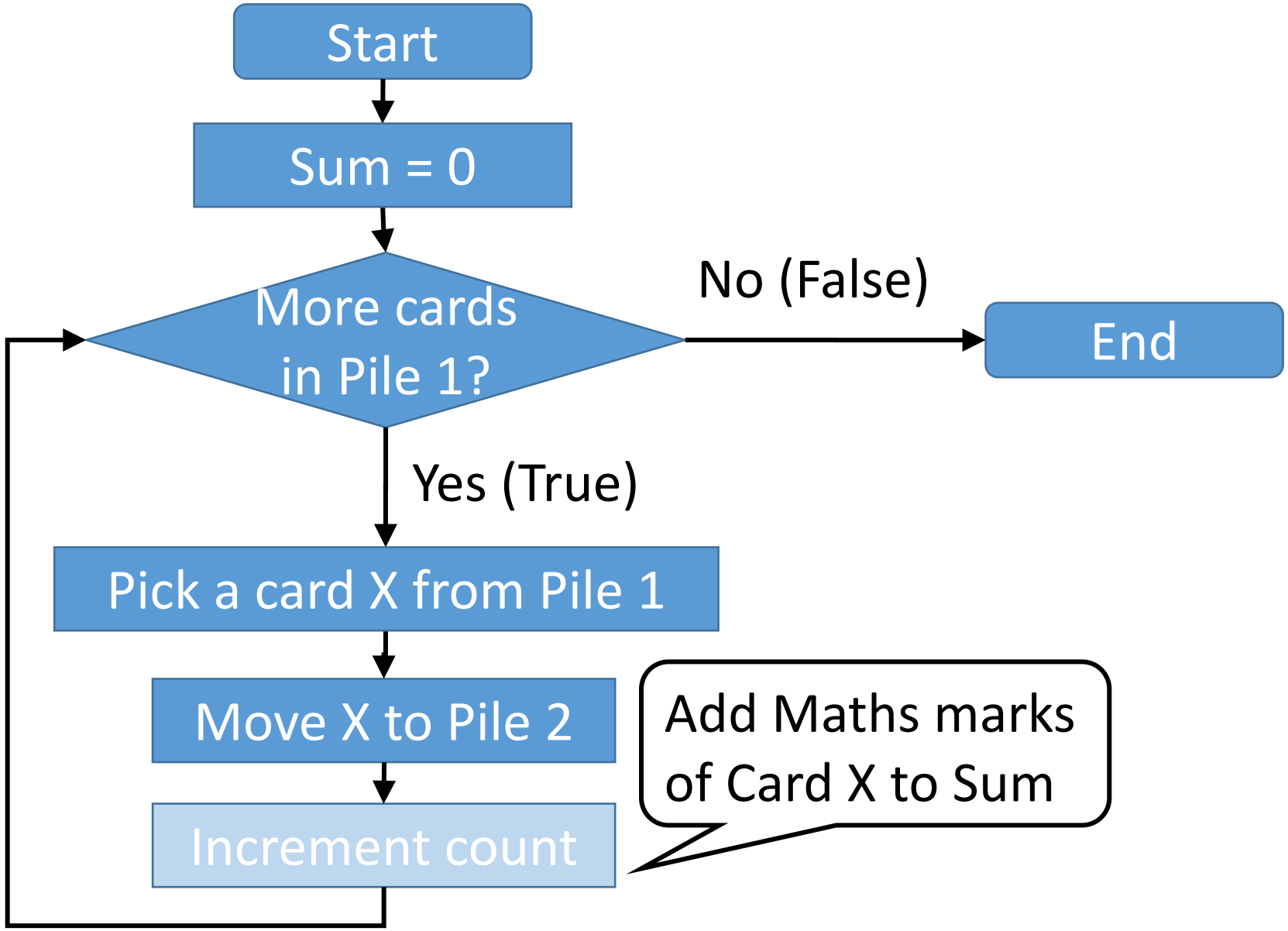
How do we modify this to do Sum of Maths marks?



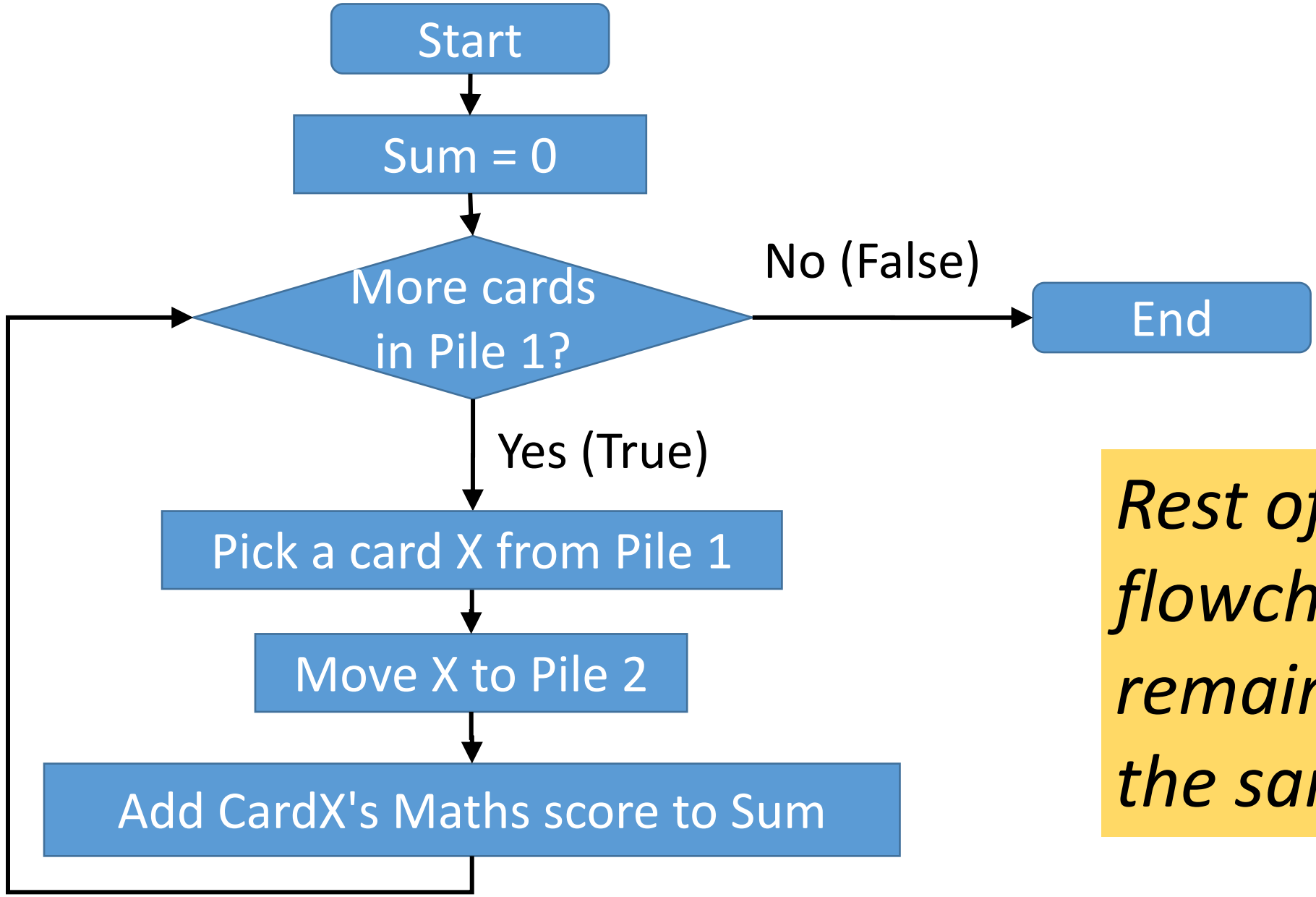
How do we modify this to do Sum of Maths marks?



How do we modify this to do Sum of Maths marks?

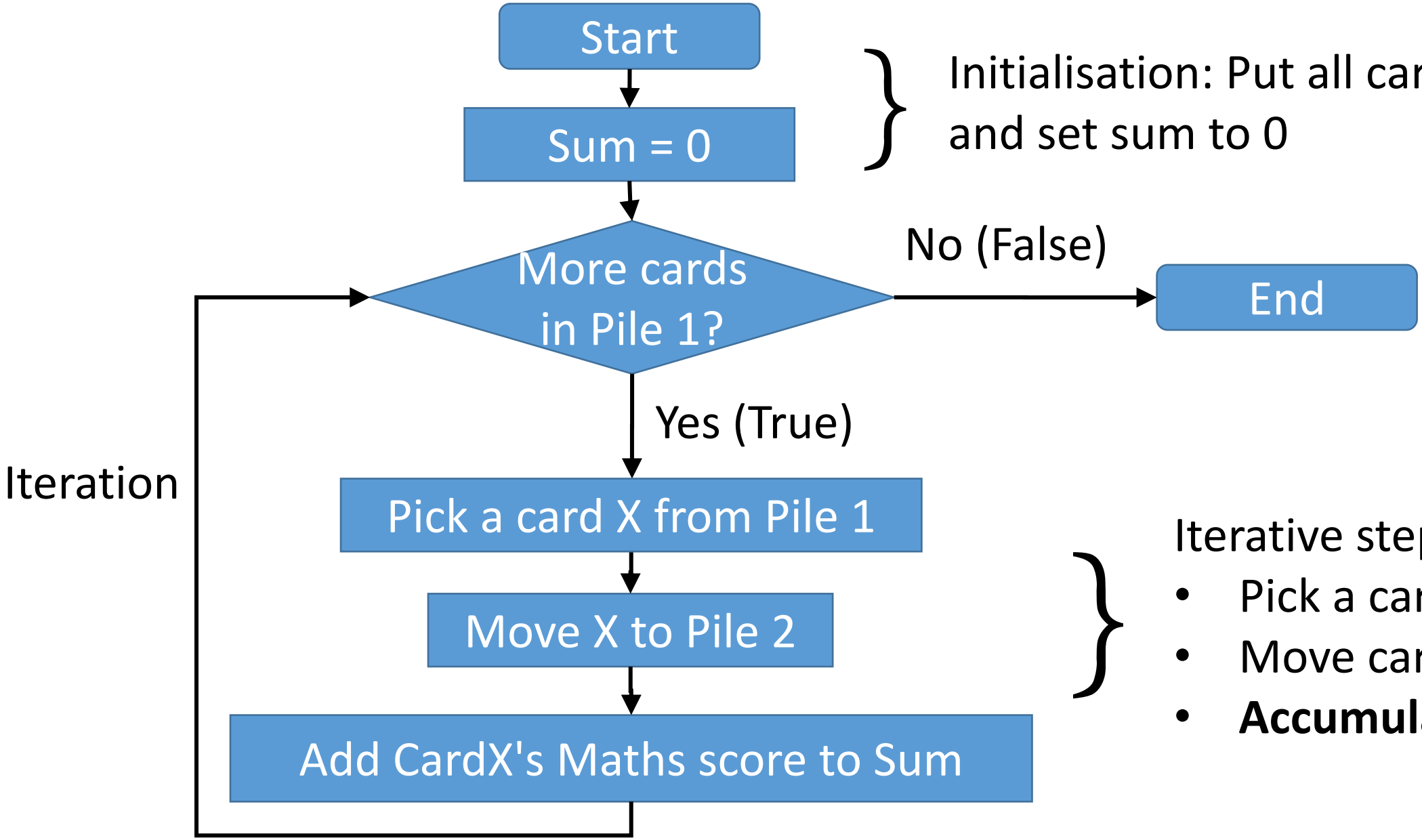


How do we modify this to do sum of Maths marks?



Rest of the flowchart remains the same !

Summary: Flowchart for sum of Maths marks



Initialisation: Put all cards in Pile 1 and set sum to 0

Iterative steps:

- Pick a card
- Move card to Pile 2
- **Accumulate** in Sum

Summary: Generic flowchart for iteration