21. Loops Activity

CPSC 120: Introduction to Programming
Pratishtha Soni~ CSU Fullerton

Agenda

0. Worksheet counts as attendance
   a. Write **full** names
1. POGIL Activities Review
2. Loops Activity

1. POGIL Activities Review

POGIL worksheets

- POGIL:
  - **P**rocess
  - **O**riented
  - **G**uided
  - **I**nquiry
  - **L**earning
- Active learning worksheets
  - Effective
  - Change of pace
- **Model:** illustration with linked questions
- Work together
  - May be challenging
  - Instructor will circulate

Roles

- Groups of 3-4
- Specific roles, choose yourself
- **Manager:** Keeps track of time and makes sure everyone contributes appropriately.
- **Presenter:** Talks to the facilitator and other teams.
- **Recorder:** Records all answers and questions and makes the necessary submission.
  - Holds the group's worksheet
- **Reflector** (groups of 4 only)**:** Considers how the team could work and learn more effectively.
- Non-recorders can view models through QR code

2. Loops Activity

Time Management

- Introduction, assigning groups: 4 minutes
- Model 1: 12 minutes
- Model 2: 30 minutes
- Wrapping up, putting chairs back: last 4 minutes
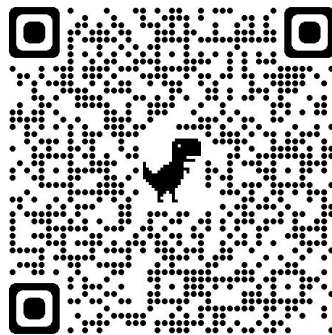
Model 1

```cpp
#include <iostream>
#include <vector>

void SimulateUnregulatedWithdrawal(
    const std::vector<double>& withdrawals, double funds) {
  for (double withdrawal: withdrawals) {
    std::cout << "Withdrawing $" << withdrawal;
    if (withdrawal <= funds) {
      funds -= withdrawal;
      std::cout << "... Successful. $" << funds << " left.\n";
    } else {
      std::cout << "... Unsuccessful. Not enough funds.\n";
    }
  }
}

int main() {
  const double kBankFunds = 500000.00;
  std::vector<double> customer_withdrawals {
      100000, 350000, 100, 400000, 32500
  };
  SimulateUnregulatedWithdrawal(customer_withdrawals, kBankFunds);
  return 0;
}
```
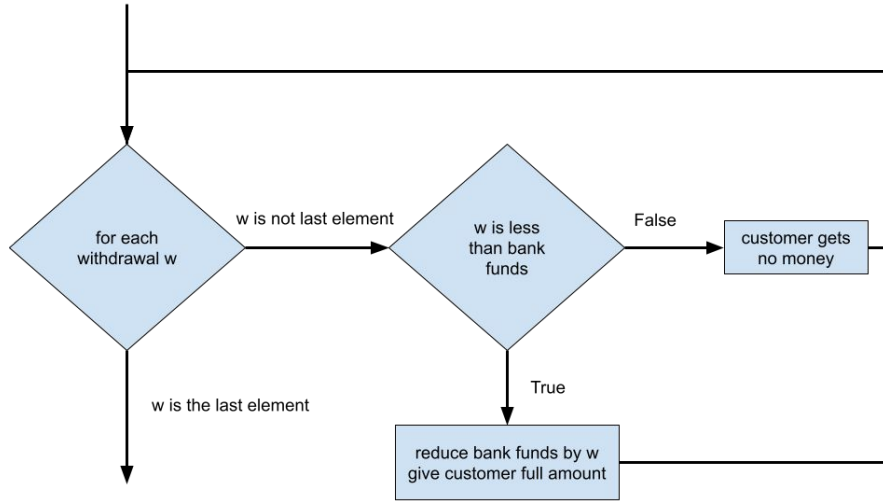
Screen output:
Withdrawing $100000... Successful. $400000 left.
Withdrawing $350000... Successful. $50000 left.
Withdrawing $100... Successful. $49900 left.
Withdrawing $400000... Unsuccessful. Not enough funds.
Withdrawing $32500... Successful. $17400 left.

Model 2

Bank with unregulated withdrawals

Bank backed by FDIC