PIC 10B Discussion
Week 2

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Smart Pointers

• Advantage: you don’t have to manage your heap memory yourself
  • unique_ptr
    • Single pointer to object, no others are allowed
  • shared_ptr
    • Can have multiple pointers to the object
  • weak_ptr
    • Made from a shared_ptr
    • No guarantee it points to anything
Typedef and Using

• std::shared_ptr<std::vector<std::shared_ptr<std::vector<std::shared_ptr<VelocityVector> obj1_vel>>> Vfield = make_shared(......

• Too much to type every time!
  • typedef unsigned long ulong;
  • Now, whenever I would type unsigned long, instead I can type ulong

• Similarly, “using”
  • Namespace: a whole bunch of definitions
  • Or, just: using ulong = unsigned long;
Exercise

• Students are pointing at a cat as it runs around the yard
  • If no one is pointing at the cat, it runs away (is deleted)

• Students randomly close/open their eyes
  • When closing eyes, stop pointing at the cat
  • When opening, pick a random student, and point to what they’re pointing to

• Repeat until the cat leaves
  • i.e. ~Cat() is run