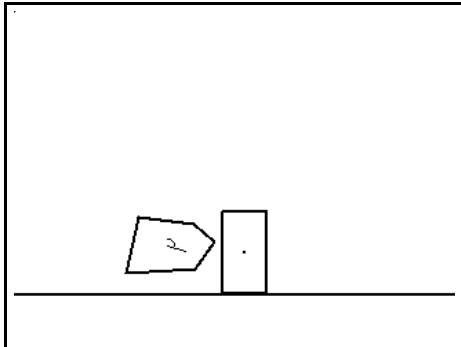
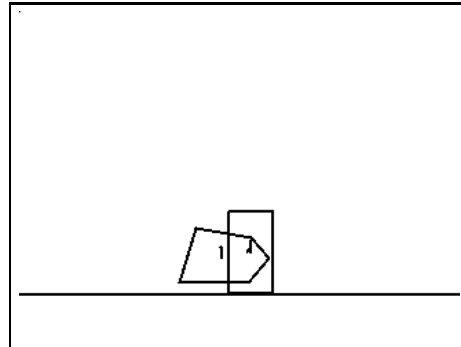


Coke

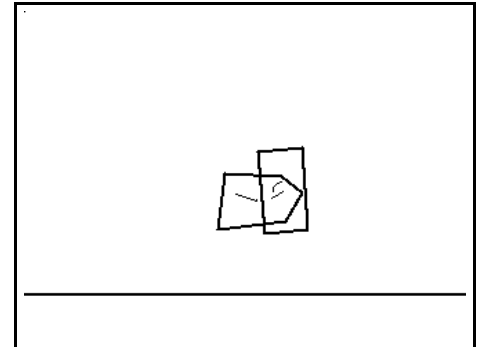
(Examples)



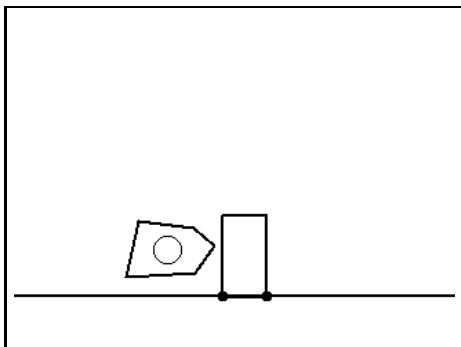
32



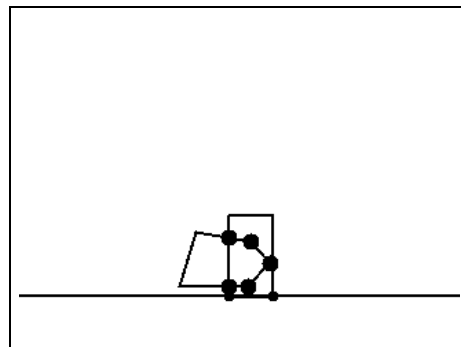
45



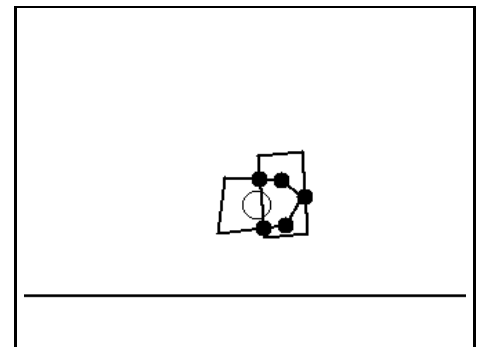
63



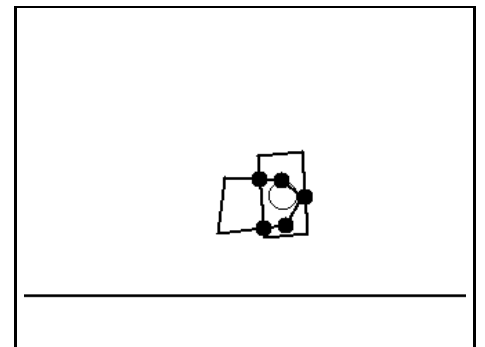
BODYMOTOR(*hand*).



BODYMOTOR(*hand*),
ATTACH(*hand*, *can*).



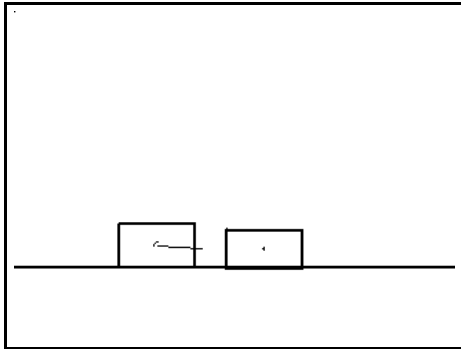
BODYMOTOR(*can*),
ATTACH(*hand*, *can*).



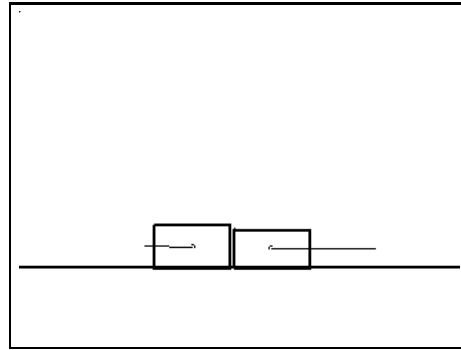
BODYMOTOR(*can*),
ATTACH(*hand*, *can*).

Cars

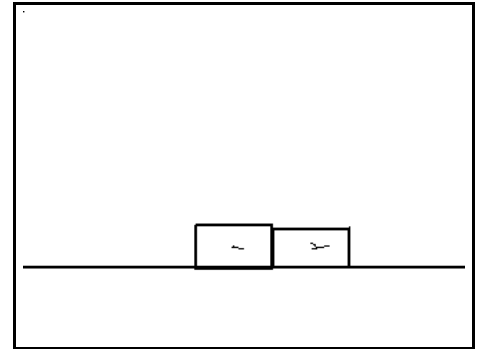
(Examples)



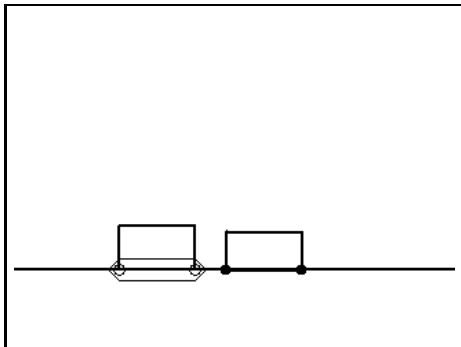
23



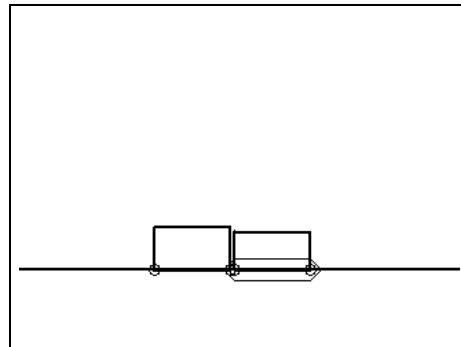
28



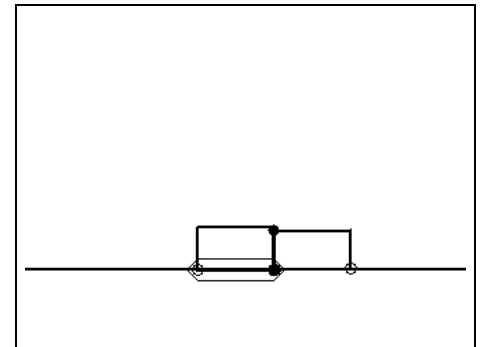
34



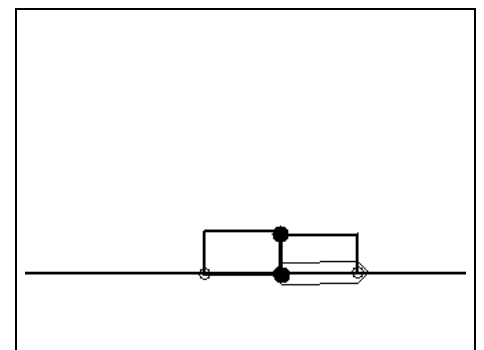
LINEARMOTOR(*left, table*).



LINEARMOTOR(*right, table*).



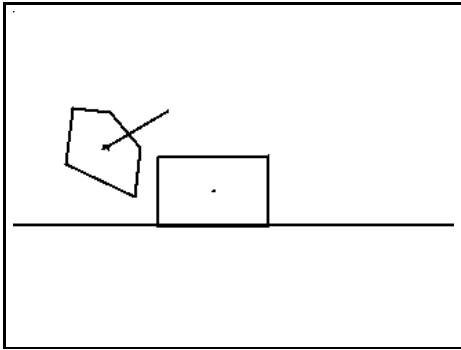
LINEARMOTOR(*left, table*).



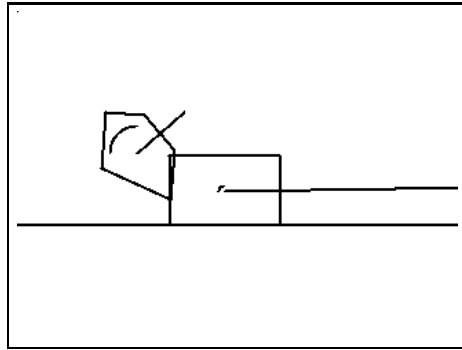
LINEARMOTOR(*right, table*),
ATTACH(*left, right*).

(Examples)

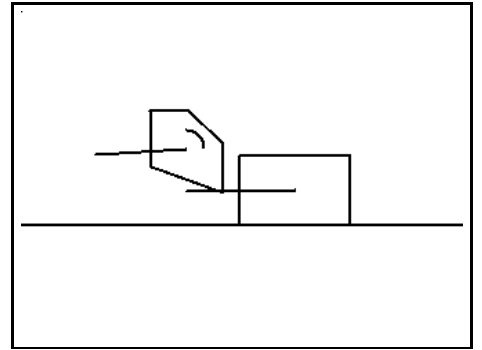
Hit



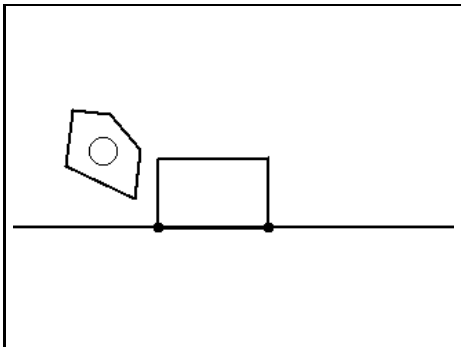
28



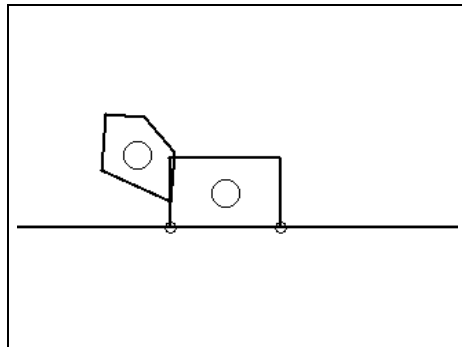
31



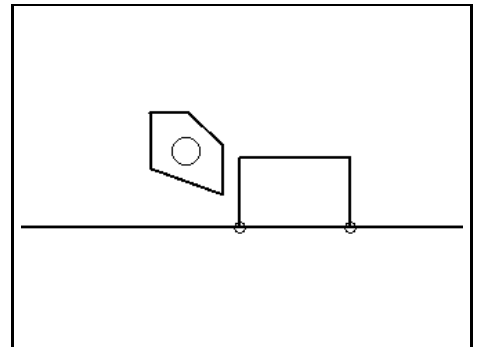
36



BODYMOTOR(*hand*).



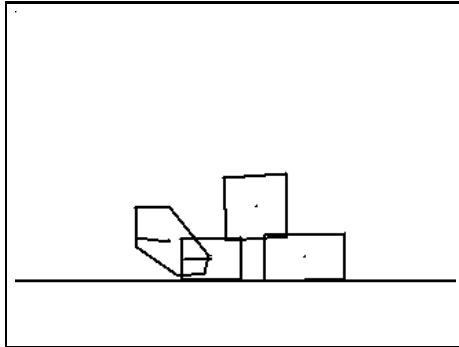
BODYMOTOR(*hand*),
BODYMOTOR(*box*).



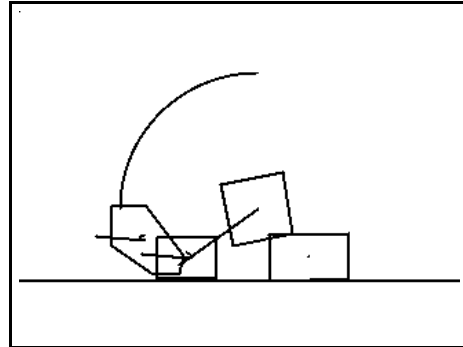
BODYMOTOR(*hand*).

(Examples)

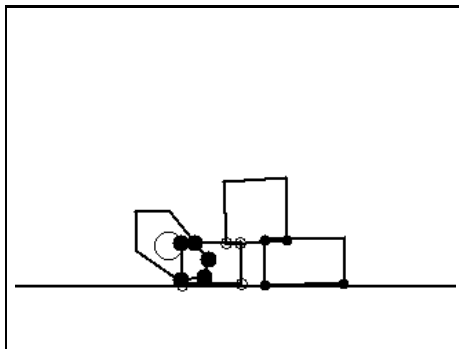
Arch



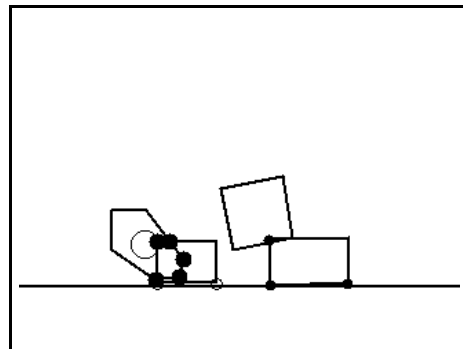
45



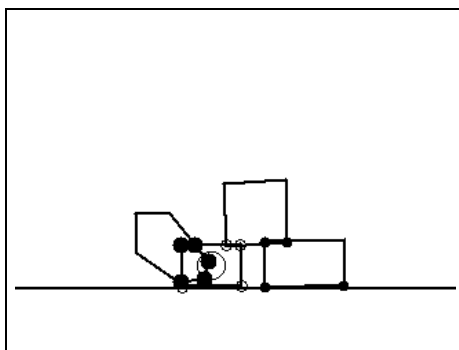
52



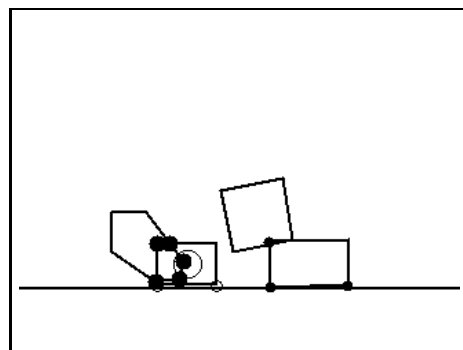
BODYMOTOR(*hand*),
ATTACH(*hand*, *left*).



BODYMOTOR(*hand*),
ATTACH(*hand*, *left*).



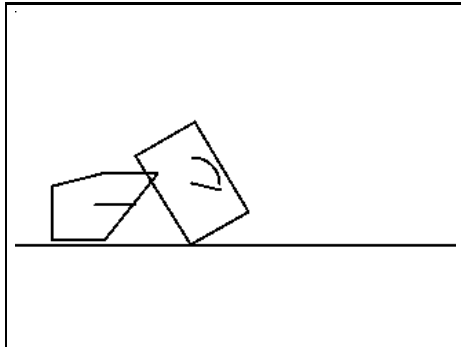
BODYMOTOR(*left*),
ATTACH(*hand*, *left*).



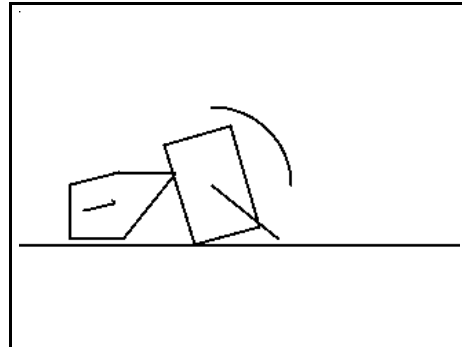
BODYMOTOR(*left*),
ATTACH(*hand*, *left*).

(Examples)

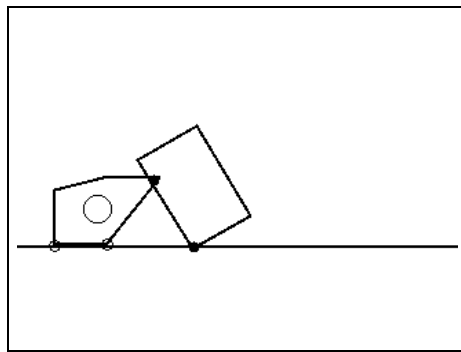
Tip



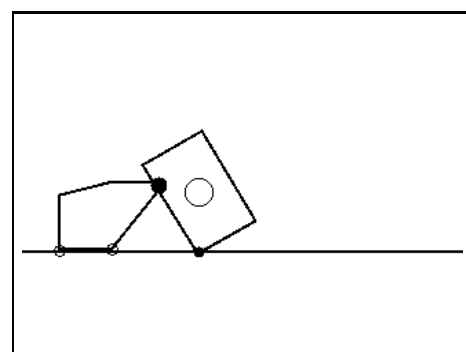
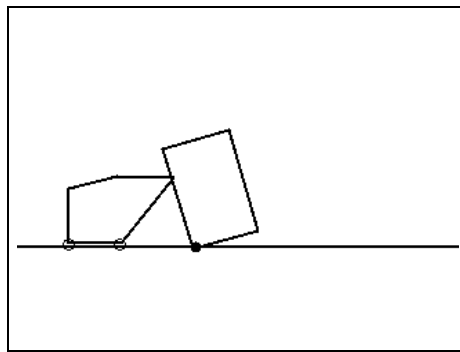
30



34



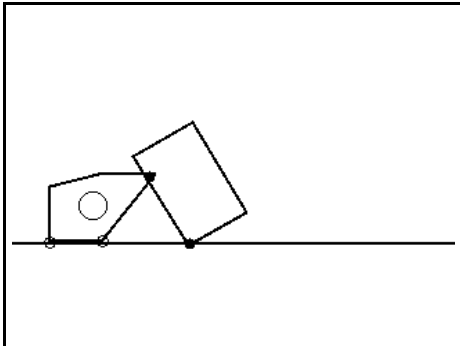
BODYMOTOR(*hand*).



BODYMOTOR(*box*),
ATTACH(*hand*, *box*).

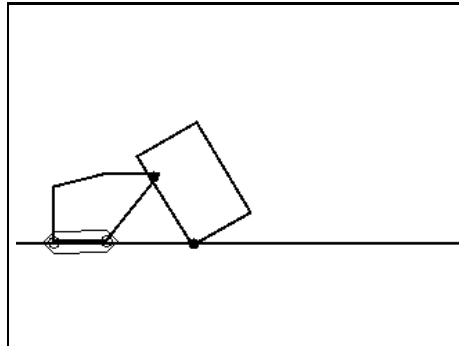
Tip Detail (frame 30)

Interpretation #1



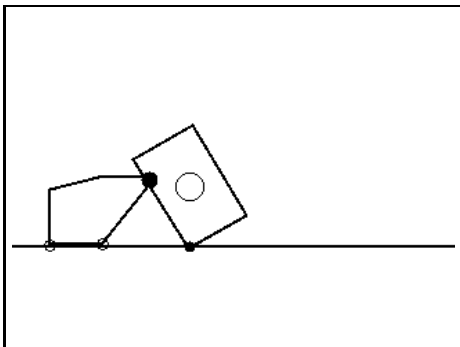
BODYMOTOR(*hand*).

Interpretation #2



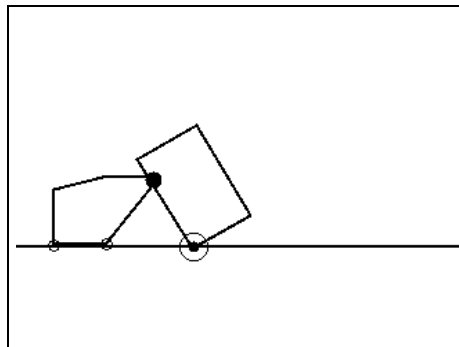
LINEARMOTOR(*hand, table*).

Interpretation #3



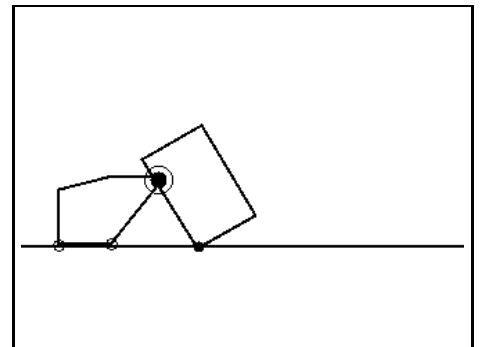
BODYMOTOR(*box*),
ATTACH(*hand, box*).

Interpretation #4



ANGULARMOTOR(*box, table*),
ATTACH(*box, table*),
ATTACH(*hand, box*).

Interpretation #5



ANGULARMOTOR(*hand, box*),
ATTACH(*hand, box*).

- All interpretations have a *force-balance*.
- Only interpretations #1 and #2 are realizable.

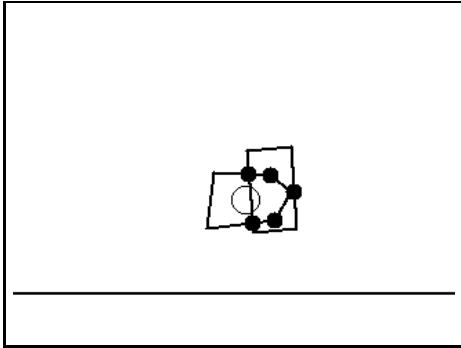
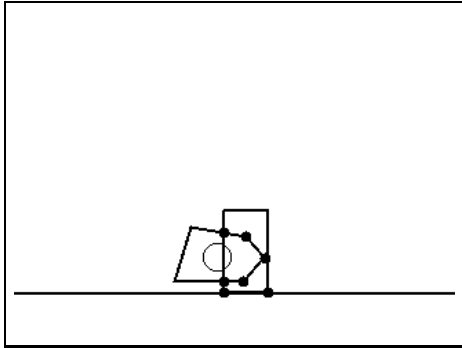
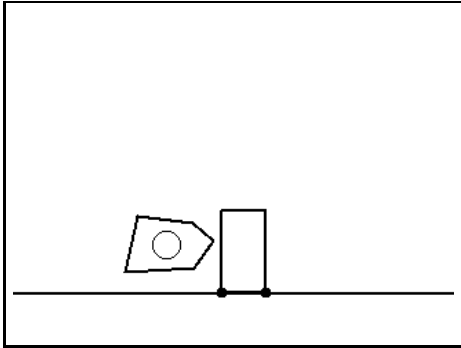
Enhanced System

(Integrate Information over Time)

- Ascribe properties to objects.
 - FLYER(o): Object o has arbitrary force and torque acting on it.
 - DRIVER(o): Object o can apply *tangential force* at any contact region.
 - ROTOR(o): Object o can apply a *torque* at any contact point.
- Object properties *persist* over time.
- Find minimal *covering* which explains whole sequence.

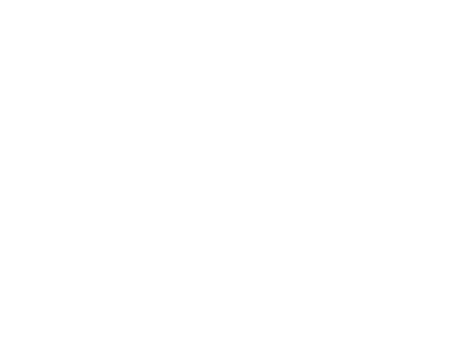
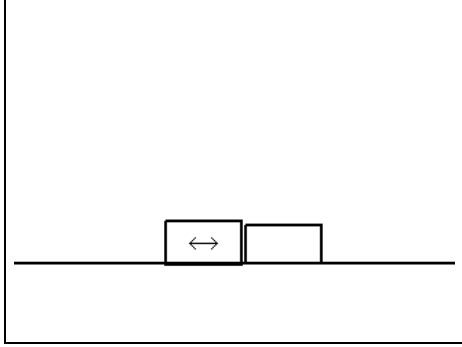
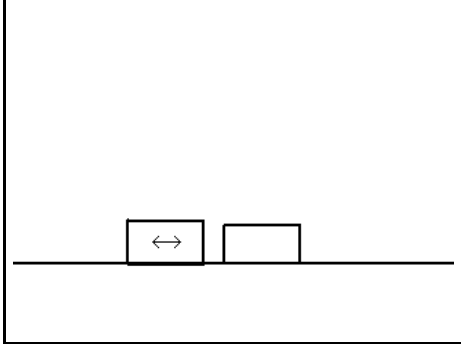
Examples (Enhanced system)

coke



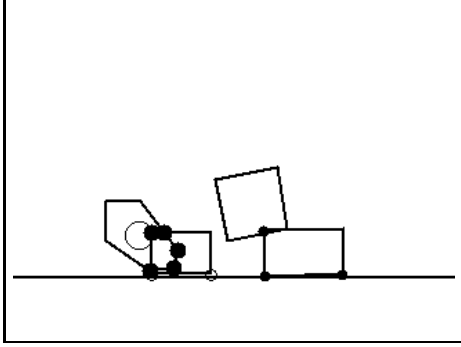
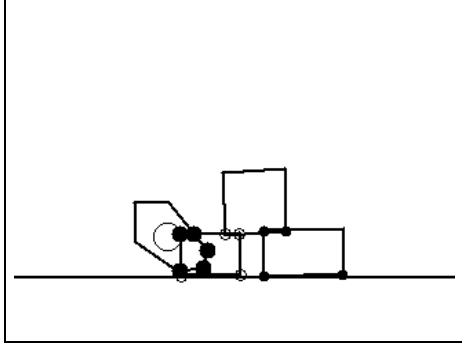
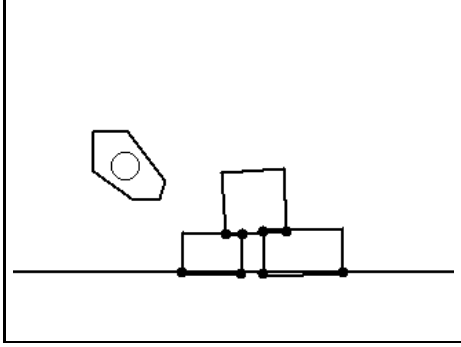
FLYER (*hand*).

cars



DRIVER (*left*).

arch



FLYER (*hand*).