# Simple Game (collect object)

Walk through this example,

1. design in comments,
2. then move comments to appropriate event,
3. then convert to code

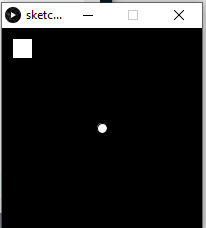
**Learning Objectives**

* Events (Procedures) – setup, draw, keyPressed
* animation
* Conditional statements : if
* Procedures – modularisation

**Resources**

1. lecture notes - moodle
2. processing reference page - <https://processing.org/reference>

Player controlled circle (key press movement). Rectangle drawn at some location. If they collide print HIT to console.



Ex 1. Pseudocode design, have a go at designing this game, what do we need, what should happen?

**Solution**

* Draw objects
* Test have objects collided (very close)?
* Move circle if keys hit
  + Print HIT

**Stage 2**:

* Draw circle (player) current position (x,y)
* Draw rectangle (x,y)
* If rectangle(x,y) – circle(x,y) < 20 pixels, abs function
  + Print hit
* Has a cluster key been Pressed
  + Circle x reduces if left key etc…

Have a go at coding it

Which events does each design line go into – enter as comments

Setup, draw, keyPressed

Variables necessary?

Note that by default the rect is drawn from top left corner, so hit when circle close to top left. Show them rectMode, which we can use throughout the unit.

rectMode(CENTER); //set rect x,y to be the centre.

**Tutor Solution**

int playerX= 100, playerY=100;

int collectX=20, collectY=20; //could be random pos

void setup()

{

size(400,400); //fairly large relative to objects

rectMode(CENTER); //set rect x,y to be the centre.

}

void draw()

{

background(0); //clear background

rect(collectX, collectY, 40,40);//Draw collectible (x,y)

ellipse(playerX,playerY,20,20);//Draw player current position (x,y)

if ( abs(playerX - collectX)<20 && abs(playerY-collectY)<20 ) //are they close together?

{

print ("HIT! ");

}

}

void keyPressed()

{

if (key==CODED)

{

if (keyCode == LEFT)

{ playerX = playerX - 5; }

if (keyCode == RIGHT)

{ playerX = playerX + 5; }

if (keyCode == UP)

{ playerY = playerY - 5; }

if (keyCode == DOWN)

{ playerY = playerY + 5; }

}

}