**Game Programming**

Code Bits

Use the Code Bits file and answer the questions regarding the code!

**Code Bit 01**

What does this code do?  
Could you replace the line *bid.direction = thisway + irandom\_range(-15,15)* with

*bid.direction = point\_direction(x,y,player.x,player.y) + irandom\_range(-15,15)* ?

There is a 1 out of 90 chance that the monster will fire a ball toward the player.

Yes, you could replace the line and it would do the same thing – BUT you would have to change the line that sets the image angle of the ball.

**Code Bit 02**

Changing the line *if firecounter >= delayrate* to *if firecount >= delayrate* would have what affect on the behaviour of the program?

There would be an error of the program not knowing the variable firecount.

**Code Bit 03**

What changes would you make to this code so that the monster would change directions toward the player every few seconds?

change the direction line to read direction=point\_direction(x,y,player.x, player.y)  
  
**Code Bit 05**

Consider the Player -> Spacebar code. A programmer decides not to use *else if* and just use *if* statements as shown below. Does this affect the program? Why is the *else if* version better?

*if throwthis = 1 {*

*...*

*}*

*if throwthis = 2 {*

*...*

*}*

*if throwthis = 3 {*

*...*

*}*

Using if statements only works in this situation, but, it is considered inefficient since each if statement has to be asked. You should use the else if chain when you can since it reduces the amount of questioning the program has to make.

**Code Bit 07**

What is this code attempting to do?  
There is a small error somewhere in the code. What is the error/fix?

The code is attempting to give the player 10 health when they touch a food. This food is destroyed. The foodmaker object will then detect that there are less than 5 foods in the room and make a new food object. This food object is told to randomly jump to a location in the room.

The health+10 is inside the with other statement, so the health is added to the food (if it had health) and not the player. The health line should be outside of the with statement.

**Code Bit 08**

What is the purpose of the *exit* command in this code?

Why make set *image\_alpha = 0.5* ?

exit will leave the current page of code (no other code is executed). If the player is invincible then we don’t want the following code to run which will damage them.

setting image alpha to 0.5 will make the sprite look half transparent giving us some visual feedback that the player is invincible.

**Code Bit 10**

What is the purpose of the *holemoley* variable?

A block just popped up a mole. What would be values (make them up if neccessary) of the variables *filled* and *holemoley*.

holemoley keeps track of the mole that this block created. When the block alarm fires and it is time to destroy it’s mole, it can ask ‘holemoley’ to destroy itself.

This is a good example of an object remembering its child object…