1. Log in
2. Unit 4
   - Writing Methods
   - Recursion
   - Classes, Methods, and Objects
   - Objects as Parameters

Mar 9-11:28 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

```
package unit4;
public class monster {


}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables

```
package unit4;
public class monster {
    String type;
    int hp;

}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

```
package unit4;
public class monster {
    String type;
    int hp;
    public monster( ) {
        type="-";
        hp=0;
    }
    public static void main(String[] args) {
        monster m1 = new monster( );
        System.out.println("Monster 1 is a "
            +m1.type+" with "+m1.hp+" HP!");
    }
}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster

```
public monsterBuild( ){

}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster
* Pass the method a monster object!

```
public monsterBuild( monster a){

}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!

```
public monsterBuild(monster a){

    return a;

}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types

```
public monsterBuild(monster a){

 int random = (int)(Math.random()*3+1);
 if(random==1){

    return a;
 }
 else if(random==2){

    return a;
 }
 else{

    return a;
 }
}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types
* Define & assign monster type

```
public monsterBuild(monster a){

 int random = (int)(Math.random()*3+1);
 if(random==1){
    a.type="Goblin";
    return a;
 }
 else if(random==2){
    a.type="Orc";
    return a;
 }
 else{
    a.type="Wizard";
    return a;
 }
}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types
* Define & assign monster type
* Different monsters have different hp

```
public monsterBuild(monster a){

 int random = (int)(Math.random()*3+1);
 if(random==1){
    a.type="Goblin";
    a.hp=10;
    return a;
 }
 else if(random==2){
    a.type="Orc";
    a.hp=50;
    return a;
 }
 else{
    a.type="Wizard";
    a.hp=100;
    return a;
 }
}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!

* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types
* Define & assign monster type
* Different monsters have different hp
* Let's randomize the hp for monsters!

```
public monsterBuild(monster a){

 int random = (int)(Math.random()*3+1);
 if(random==1){
    a.type="Goblin";
    a.hp=(int)(Math.random()*10+1);
    return a;
 }
 else if(random==2){
    a.type="Orc";
    a.hp=(int)(Math.random()*50+1);
    return a;
 }
 else{
    a.type="Wizard";
    a.hp=(int)(Math.random()*100+1);
    return a;
 }
}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects

* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

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* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types
* Define & assign monster type
* Different monsters have different hp
* Let's randomize the hp for monsters!

Step 3 - Finish the method header

```
public monsterBuild(monster a){

 int random = (int)(Math.random()*3+1);
 if(random==1){
    a.type="Goblin";
    a.hp=(int)(Math.random()*10+1);
    return a;
 }
 else if(random==2){
    a.type="Orc";
    a.hp=(int)(Math.random()*50+1);
    return a;
 }
 else{
    a.type="Wizard";
    a.hp=(int)(Math.random()*100+1);
    return a;
 }
}
```

Nov 10-11:13 AM

Today: The beginnings of a text-based game ...

Step 1 - We need monster objects
* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!
* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types
* Define & assign monster type
* Different monsters have different hp
* Let's randomize the hp for monsters!

Step 3 - Finish the method header
* This method returns a monster ... so, we need a return type monster.

```
public monster monsterBuild(monster a){
  int random = (int)(Math.random()*3+1);
  if(random==1){
    a.type="Goblin";
    a.hp=(int)(Math.random()*10+1);
    return a;
  }
  else if(random==2){
    a.type="Orc";
    a.hp=(int)(Math.random()*50+1);
    return a;
  }
  else{
    a.type="Wizard";
    a.hp=(int)(Math.random()*100+1);
    return a;
  }
}
```

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Today: The beginnings of a text-based game ...

Step 1 - We need monster objects
* Build the Instance Variables
* Write the Constructor Method
* Main method to create/verify monster

Step 2 - Randomize monsters!
* Mutator Method - randomize monster
* Pass the method a monster object!
* Will edit & return the monster object!
* Randomly pick from 3 monster types
* Define & assign monster type
* Different monsters have different hp
* Let's randomize the hp for monsters!

Step 3 - Finish the method header
* This method returns a monster ... so, we need a return type monster.
* Method handles all monsters - static

```
public static monster monsterBuild(monster a){
  int random = (int)(Math.random()*3+1);
  if(random==1){
    a.type="Goblin";
    a.hp=(int)(Math.random()*10+1);
    return a;
  }
  else if(random==2){
    a.type="Orc";
    a.hp=(int)(Math.random()*50+1);
    return a;
  }
  else{
    a.type="Wizard";
    a.hp=(int)(Math.random()*100+1);
    return a;
  }
}
```

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Analyze the following main method ...

```
public static void main(String[] args) {
    monster m1 = new monster();          //new monster 1
    m1=monsterBuild(m1);
    System.out.println("Monster 1 is a "
        +m1.type+" with "+m1.hp+" HP!");
    monster m2 = new monster();
    monster m3 = new monster();

}
```

Nov 10-11:13 AM

The final code ...

```
public class monster {
  String type;
  int hp;
  public monster(){
    type="";
    hp=0;
  }
  public static monster monsterBuild(monster a){
    int random = (int)(Math.random()*3+1);
    if(random==1){
      a.type="Goblin";
      a.hp=(int)(Math.random()*10+1);
      return a;
    }
    else if(random==2){
      a.type="Orc";
      a.hp=(int)(Math.random()*50+1);
      return a;
    }
    else{
      a.type="Wizard";
      a.hp=(int)(Math.random()*100+1);
      return a;
    }
  }
  public static void main(String[] args) {
    monster m1 = new monster();          //new monster 1
    m1=monsterBuild(m1);
    System.out.println("Monster 1 is a "
        +m1.type+" with "+m1.hp+" HP!");
    monster m2 = new monster();
    monster m3 = new monster();

  }
}
```

Nov 10-12:44 PM

Things to do ...

1. Be wrapping up all Unit 04 WS01-09 Worksheets
2. Exam coming up soon!

Nov 6-3:25 PM