

MODULE 3 - SHEET 1

```
public class Fibonacci
{ public static void main(String[] args)
  { int a=1, b=1, c=a+b, sum=a+b+c;
    while (c <= 1000)
    { a = b;
      b = c;
      c = a+b;
      sum += c;
    }
    System.out.println("First term over 1000 is " + c);
    System.out.println("The sum to that term is " + sum);
  }
}
```

```
// This yields:
//
// First term over 1000 is 1597
// The sum to that term is 4180
```

```
public class Mins
{ public static void main(String[] args)
  { int mins = 125;
    System.out.println("Time is " + mins/60 + " hours "
                      + mins%60 + " minutes");
  }
}
```

```
public class FloatIntroA
{ public static void main(String[] args)
  { int i=2;
    float x;
    x = 1.32f/1.1f;
    if (x == 1.2f)
      System.out.println("Don't bank on this!");
  }
}
```

```

        else
            System.out.println("What I feared!");
        x = i;
        System.out.println("x = " + x);
        x = i/3;
        System.out.println("x = " + x);
        x = (float)i/(float)3;
        System.out.println("x = " + x);
    }
}

```

```

// This yields:
//
// Don't bank on this!
// x = 2.0
// x = 0.0
// x = 0.6666667

```

```

public class FloatIntroB
{ public static void main(String[] args)
    { int i=2;
      float x;
      x = 1.32f/1.1f;
      System.out.println(x == 1.2f ? "Don't bank on this!" : "What I feared!");
      x = i;
      System.out.println("x = " + x);
      x = i/3;
      System.out.println("x = " + x);
      x = (float)i/(float)3;
      System.out.println("x = " + x);
    }
}

```

```

// This yields:
//
// Don't bank on this!
// x = 2.0
// x = 0.0
// x = 0.6666667

```

MODULE 3 - SHEET 2

```
public class Greenfly
{ public static void main(String[] args)
  { int m=1;
    int[] im = new int[8];
    for (int i=1; i<=7; i++)
      im[i] = 0;
    for (int day=1; day<=28; day++)
      { m += im[7];
        for (int i=7; i>1; i--)
          im[i] = im[i-1];
        im[1] = 8*m;
      }
    int total = im[1]+im[2]+im[3]+im[4]+im[5]+im[6]+im[7]+m;
    System.out.println("After 28 days the greenfly total is " + total);
  }
}
```

```
// This yields:
//
// After 28 days the greenfly total is 1161889
```

```
public class DoubleIntro
{ public static void main(String[] args)
  { float f;
    double x = 2.0d;
    double y = Math.sqrt(x);
    System.out.println("y = " + y);
    f = (float)y;
    System.out.println("f = " + f);
    y = (double)f;
    System.out.println("y = " + y);
    x = Math.sqrt(144.0d);
```

```

        System.out.println("x = " + x);
        x = 0d;
        y = 1d;
        double z = Math.atan2(y,x)*180d/Math.PI;
        System.out.println("z = " + z);
    }
}

// This yields:
//
// y = 1.4142135623730951
// f = 1.4142135
// y = 1.4142135381698608
// x = 12.0
// z = 90.0

```

```

public class BoolIntro
{ public static void main(String[] args)
  { boolean p, q, r;
    p = true;
    q = 5<2;
    r = p && q || !(5<2);
    if (r)
    { System.out.println("p = " + p);
      System.out.println("q = " + q);
      System.out.println("r = " + r);
    }
  }
}

```

```

// This yields:
//
// p = true
// q = false
// r = true

```