

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.printf("First term over 1000 is %d\n", c);
    System.out.printf("The sum to that term is %d\n", 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.printf("Time is %d hours %d minutes\n",
                      mins/60, mins%60);
  }
}
```

```
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.printf("Don't bank on this!\n");
    else
      System.out.printf("What I feared!\n");
    x = i;
    System.out.printf("x = %f\n", x);
    x = i/3;
    System.out.printf("x = %f\n", x);
    x = (float)i/(float)3;
    System.out.printf("x = %f\n", x);
  }
}
```

```
// This yields:
//
// Don't bank on this!
// x = 2.000000
```

```
// x = 0.000000
// x = 0.666667
```

```
public class FloatIntroB
{ public static void main(String[] args)
  { int i=2;
    float x;
    x = 1.32f/1.1f;
    System.out.printf(x == 1.2f ? "Don't bank on this!\n" : "What I feared!\n");
    x = i;
    System.out.printf("x = %8.4f\n", x);
    x = i/3;
    System.out.printf("x = %6.4f\n", x);
    x = (float)i/(float)3;
    System.out.printf("x = %.4f\n", x);
  }
}
```

```
// This yields:
//
// Don't bank on this!
// x = 2.0000
// x = 0.0000
// x = 0.6667
```

MODULE 3 - SHEET 2

```
public class DoubleIntro
{ public static void main(String[] args)
  { float f;
    double x = 2.0d;
    double y = Math.sqrt(x);
    System.out.printf("y = %.16f\n", y);
    f = (float)y;
    System.out.printf("f = %.16f\n", f);
    y = (double)f;
    System.out.printf("y = %.16f\n", y);
    x = Math.sqrt(144.0d);
    System.out.printf("x = %.2f\n", x);
    x = 0d;
    y = 1d;
    double z = Math.atan2(y,x)*180d/Math.PI;
    System.out.printf("z = %.2f\n", z);
  }
}

// This yields:
//
// y = 1.4142135623730951
// f = 1.4142135381698608
// y = 1.4142135381698608
// x = 12.00
// z = 90.00
```

```
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.printf("p = %s\n", p);
        System.out.printf("q = %s\n", q);
        System.out.printf("r = %s\n", r);
      }
  }
}

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