JAVA – Worksheet 4 – Revision Programs

For some of the following programs you may have to use the Math class. Go through the notes for help…

1. Write a program (Seconds) that works out and outputs the number of seconds in 1 year. (365 days). Then ask the user to enter a number of years and the program should output the number of seconds in the number of years entered by the user.

2. Write a program (Bits) that converts megabytes to bits. User is asked to enter the number of megabytes and program then outputs the number of bits.

3. Write a program (Distance) that works out the distance covered by a moving object using the formula $s=ut+\frac{1}{2}at^2$ where u=initial velocity, t=time and a=acceleration. Ask the user for the values of u, t and a and output the distance covered. Use the Math class where applicable.

4. Write a program (SurfSphere) that outputs the surface area of a sphere ($SA=4\pi r^2$). Ask user to enter radius. Set π as a constant equal to 3.142. Use the Math class where applicable.

5. Write a program (Hyp) that works out the length of the hypothenuse of a right-angle triangle. User is asked to enter the length of **side a** and **side b** and hypothenuse **c** is worked out using the formula $c=\sqrt{(a^2+b^2)}$. Use the Math class where applicable.

6. Write a program (Converter) that asks the user to enter an 8-bit binary number and converts the number to decimal. Program should output both the binary number and decimal number. (Hint: ask user to enter and store the binary bits one by one).