**SD1 Programming**

**Exercise Sheet 1**

1. Write a program that will ask the user to enter the length and width of a football pitch, each to the nearest metre. The program should then calculate and display the area of the pitch in sq. m.
2. Write a program that will ask the user to enter the length and width of a football pitch in metres , each to two decimal places. The program should then calculate and display the area of the pitch in sq. m. to two decimal places.
3. Write a program that will ask the user to enter a pair of integer numbers. The program should then calculate and display the result of applying each of the arithmetic operators to the pair of numbers.

For example if the user were to enter the numbers 13 and 5 the program should display

13 + 5 = 18

13 - 5 = 8

13 \* 5 = 65

13 / 5 = 2

13 % 5 = 3

1. Write a program that will ask the user to enter a total number of days. The program should then calculate the corresponding number of weeks and days.
2. An employee’s annual salary is to increase by a fixed percentage at the end of each year of his employment. Write a program that will ask an employee to enter his starting salary and the percentage increase that is to be applied. The program should then display a list showing his annual salary for each of the first four years of his employment.
3. Write a program that will ask an employee to enter his annual salary, his annual tax free allowance and his percentage tax rate. The program should then calculate and display the tax due for the year.
4. The cost of hiring a car is based on the distance travelled by the car. There is a standard charge of €0.20 for each km and an additional a surcharge of €10.00 for each 1000 km. Write a program that will ask the user to enter the initial and final kilometre readings on the car. The program should then display the cost of hire.
5. Write a program that will ask the user to enter the departure time and arrival time for a train journey. The times should be entered as per a 24-hour clock, for example quarter to nine in the evening is 1845. Assuming that the journey is within the same 24-hour period, the program should calculate and display the duration of the journey in hours and minutes.