# Task Sheet 1 – Selection – If …. Else….. Endif

## Specification 1

A health club has opened. There are two types of membership

* Peak £30 per month
* Off Peak £20 per month.

Members may choose if they wish to have access to the swimming pool. This will cost an extra £10 per month.

Similarly, members may choose if they wish to have access to the tennis. This will cost an extra £10 per month.

The program must obtain the members choices and then calculate and display the total monthly cost.

## Task 1

Design the algorithm for the above process using pseudo code.

Hint: Initially determine the input data and the output data. Then consider the process (instructions/calculations) required to obtain the output data from the input data.

## Task 2

Implement your algorithm i.e. build the program in Java.

## Specification 2

José works for a company that provides loans to its customers.

When customers take out a loan they decide how much money to borrow and for how many years.

The customer may pay back the loan on a monthly or yearly basis , this is also determined when the loan is taken out.

The interest rate is currently 10% but it may change in the future.

The program must calculate

* the annual interest (interest paid each year) by multiplying the interest rate by the amount (hint the interest rate is in percent).
* The total amount of money by multiplying the annual interest by years and adding the original amount borrowed.
* Then either the monthly payments (total amount divided by the number of years times 12) or the annual payments (total amount divided by the number of years) depending on the option selected.
* Output the payments.

## Task 3

Design the algorithm for the above process using pseudo code.

Hint: Initially determine the input data and the output data. Then consider the process (instructions/calculations) required to obtain the output data from the input data.

## Task 4

Implement your algorithm i.e. build the program in Java.