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| Edith Cowan University School of Science |  |

Module 3

Making Decisions – Control Structures

**Related Objectives**

* Use the if and if-else statements
* Use nested if statements
* Avoid common pitfalls with if statements
* Use the switch statement
* Use the conditional operator
* Use the logical AND and the logical OR
* Make decisions with structure fields

**Activity**

1. Using a single-alternative if, write a console application based on the following code requirements:
   1. Ask a user for the average amount of hours they are away from home each day
   2. Store that in a variable called ‘hoursGone’
   3. Compare hoursGone to a constant called ‘MANY\_HOURS’
      1. If it is greater than MANY\_HOURS recommend the user to get a cat
2. Using a dual-alternative if, extend the above program to include the following requirement:
   1. If hoursGone is less than MANY\_HOURS recommend the user to get a dog
3. Using a compound condition and nested if statements, write a program for the following specifications. Write a program so that if the clerk enters the number of kilometres, the program would display the total price owed.
   1. A furniture store charges $0.30/km for deliveries within a 10km radius from the city. For deliveries outside the 10km range, it will be charged at $0.30/km for the first 10km, then charges $0.40/km for each kilometre over 10km. For customers holding an account with the store they are charged a flat rate of $0.30/km no matter how far the distance.
   2. The program should take as input the delivery distance in kilometres and if the customer holds a store account.
   3. The output will be the delivery price with itemized results for the first 10km and for subsequent kilometres after.
   4. Example output is found on the next page

Enter the number of kilometres: 11

Does the customer hold a store account? (1 for Yes, or 0 for no): 1

Delivery Price = $3.30

Delivery Price for the first 10km = $3.0

Delivery Price thereafter = $0.0

1. **Challenge:** Using what we have studied so far you are required to develop a rule-based decision specification of the program workflow in the provided PDF file.