ML Guided Practical Session – Week 2

Getting started

- Log in to the PWF
- Close the MOTD (Message-of-the-Day) window
- Click start
- Click PWF Programs
- Open Word and Text Processing
- Open Notepad
- Key in the following ML source text making sure that it is exactly as shown here but with your own name in line 1:

```ml
(* ML ASSESSED EXERCISES. TICK 2 SUBMISSION FROM F.H. KING. *)
(* Estimated time to complete: 10 mins. Actual time: 25 mins. *)

(* PROBLEM 1. A recursive factorial function facr(n) ... *)
fun facr(n) = if n=0 then 1 else n*facr(n-1);

(* PROBLEM 2. An iterative factorial function faci(n) ... *)
fun faci(n) =
    let
        fun f(i,a) = if i=0 then a else f(i-1, i*a)
    in
        f(n,1)
    end;
```

- Choose the Save As command from the File menu
- In the File name box, overwrite *.txt with Tick2
- Click Save
- Click the Minimize button

Testing the ML source

- Return to PWF Programs
- Open Teaching Packages
• Open Computer Laboratory

• Start Cambridge ML

• Choose the Read command from the File menu

• From the List files of type drop-down list box, select All files (*.*); the list of files which appears probably includes Tick1.LOG which you created last week (the .LOG extension was added automatically by CML) and Tick2.txt which you have just created (the .txt extension was added automatically by Notepad)

• Double-click Tick2.txt to open it

• Check that you have the ML use command

use "U:\\Tick2.txt";

• Press ENTER

If there is an error message you will have to click Tick2.txt - Notepad in the Task Bar at the foot of the screen, edit the ML source, then choose the Read command from the File menu again

• Before each of the following test calls of the functions, press ENTER to ensure that there are vertical gaps separating adjacent tests:

faci(6); then faci(0); then facr(6); then facr(0);

• When everything seems to work choose the Save As command from the File menu

• Save the ML session as Tick2

• Exit from CML

Looking at the files created so far

• Double-click the icon representing your documents on PWF Drive U; the system should show Tick1 and two files called Tick2. All these files have a Notepad icon but notice the extensions: Tick1.LOG and Tick2.LOG were created in CML and Tick2.txt in Notepad

Tidying up and printing

• Remembering that all these files have a Notepad icon, double-click Tick2.LOG to enter Notepad
• Tidy up the text and add a new line at the top with your own name so that it looks as closely as possible like the version shown below:

TICK 2 SUBMISSION FROM F.H. KING...

FAM CML started on 27-Sep-2009 14:22:06
(version 4.2.00 of Sep 23 1994)
Image file Y:\cml\CML.EXP
(written on 29-Aug-1994 16:25:54 by FAM version 4.2.00)
[Loading Foreign Heap (Converting for Generic Use)]

Edinburgh ML for DOS/Win32s/Unix (C) Edinburgh University & A C Norman

- use "U:\\Tick2.txt";
> () : unit
[Opening U:\Tick2.txt]
> val facr = Fn : int -> int
> val faci = Fn : int -> int
[Closing U:\Tick2.txt]
- faci(6);
> 720 : int
- faci(0);
> 1 : int
- facr(6);
> 720 : int
- facr(0);
> 1 : int

• Print this

• Save the changes made to Tick2.LOG

• Open Tick2.txt

• Print the ML source

• Exit from Notepad

• Collect your output

• Log off from the PWF and take the sheets to Dr King for signature. The ML source text should be on top of the short ML session.