ML Guided Practical Session – Week 2

Getting started

- Log in to the PWF
- Close the MOTD (Message-of-the-Day) window
- Click *start*
- Click Programs
- Open Accessories
- 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 ASSESSED EXERCISES.  TICK 2 SUBMISSION FROM F.H. KING.  *)
(*  Estimated time to complete: 10 mins.  Actual time: 25 mins.  *)

(*  PROBLEM 1.  The area of a triangle with base x and height y ...  *)

fun area(x,y) = x*y/2.0;


(*  PROBLEM 2.  Two to the power of n ...  *)

fun two2the(n) = if n = 0 then 1 else 2 * two2the(n-1);
```

- 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 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:

  `area(3.5, 4.0);` then **`area(3,4);`** then **`two2the(0);`** then **`two2the(5);`** then **`two2the(10);`**

- 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 on the next page:

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

FAM CML started on 27-Sep-2010 15:20:48
   (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 area = Fn : (real * real) -> real
> val two2the = Fn : int -> int
[Closing U:\Tick2.txt]
-
- area(3.5, 4.0);
> 7.0 : real
-
- area(3,4);
Type clash  in:  (area (3,4))
Looking  for a:  real
I have found a:  int
-
- two2the(0);
> 1 : int
-
- two2the(5);
> 32 : int
-
- two2the(10);
> 1024 : 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.