

ESc101N: Fundamentals of computing(Lab Session 11)

October 29, 2009

Instructions

1. Please read the question carefully and write the program accordingly
2. Make sure that the TA has graded you program
3. The marks are distributed as follows. You get 60% of the marks if the basic algorithm is current, 20% if you manage to compile and execute and 20% for writing the code cleanly, i.e. using proper variable names, intending and making the code more readable.

Question 1. (10 marks) Write a single program say `ascii.c` that can be compiled into three programmes `asciid`, `asciio` and `asciih` that will print the ascii values of characters in a file in decimal, octal and hexadecimal respectively. Each of the program has to take a number of command line arguments which are file names and print the ascii values in appropriate base. If there are no command line arguments then the program should print the ascii values of characters on its `stdin`. For example the following two commands should be equivalent.

```
$ asciid foo bar
$ cat foo bar | asciid
```

For cleaner look after the ascii value of each character put a tab `'\t'` instead of a space. Also it helps if after processing 8 characters print a newline `'\n'`.

(Hint: For string comparison you can use the function `strcmp` from `strings.h` library. Check the man page for `strcmp`)

Sample output is given below

```
Script started on Thu 29 Oct 2009 12:08:44 IST
sh-4.0$ cat foo
foo
sh-4.0$ cat test
Aabb
sh-4.0$ cat foo test | asciid
102      111      111      10      65      97      98      98
10
sh-4.0$ asciih foo test
0x66     0x6f     0x6f     0xa     0x41     0x61     0x62     0x62
0xa
sh-4.0$ cat foo test | asciio
0146     0157     0157     012     0101     0141     0142     0142
012
sh-4.0$ exit
```

```
Script done on Thu 29 Oct 2009 12:09:32 IST
```