Sample of homework report

Eugeniy E. Mikhailov

September 2, 2011

1 Problem 1

1.1 Problem statement

Write a function which finds a maximum out of two user supplied numbers.

1.2 Solution

First we need to compare two numbers which leads to the straightforward if-else construct which selects the proper answer. However there is one special case when both inputs are the same. The comparison should have $\geq$ comparison operator to include this case into decision tree. See the resulting function *find_max* in the listing 1.

Listing 1: Find max code

```
% Simple   function   to find  maximum
% out of two  user  supplied  numbers  x1  and  x2
% by  Eugeniy   Mikhailov
% 08/15/2010
%
% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% x1  and  x2   are  user  supplied  inputs
% ret  is  return  value  which  hold  the  lagest  of  two  input  values
% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
function  ret=find_max(x1,x2)
        % first  we  compare  2  numbers
        if  (x1 >= x2)
                % notice  greater  or  equal  comparison
                % otherwise  'ret'  value  will  not  be  assigned
                % for  the  case  when  x1  equals  to  x2
                ret = x1;
        else
                ret = x2;
        end
```

```
end
```

1.3   Test cases

To check the validity of the code I tried 3 possible combination of the input parameters. When first argument is smaller then second, when first argument is lager then second, and finally when they are both the same. The results of the tests are as expected (see listing 2).

Listing 2: Find max code tests

```
>> find_max(1,10)
ans =   10
>> find_max(10,1)
ans =   10
>> find_max(10,10)
ans =   10
```