Homework 7 Problem 1

Create an algorithm for determining the machine epsilon used by computers by setting epsilon equal to 1, and if 1 plus epsilon is less than or equal to 1, multiply the epsilon by two. If it is greater than 1, divide the epsilpn by 2. Then, repeat the process to make sure it is greater than 1.

```matlab
%initial variables:
%   epsilon is 1

e=1;
while true
    if 1+e<=1
        e=e*2;
        break;
    else
        e=e/2;
    end
end
b='The machine epsilon e for this program is ';
c=[b,num2str(e)];
disp(c)
```

The machine epsilon e for this program is 2.2204e-16

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