**Statement of the Problem**

We are expected to calculate Machine Precision using the given algorithm in both single and double precision.

**Algorithm**

We assume eps to be 1, Divide it by 2 and add 1 to it. If this is greater than 1, we repeat the process. We continue this process till there is no longer a difference for the computer between 1 + eps and 1 (i.e. 1 + eps = 1). Since eps is halved in every iteration of the program, the value of precision is twice of eps (since we know that in the (n-1) th iteration there was a difference between 1 + eps and 1).

**Results**

The results presented by the program are as follows:

* eps = 1.1102e-16
* precisionDouble = 2.2204e-16
* epsSingle = 5.9605e-08
* precisionSingle = 1.1921e-07

**Comments**

1. The values of Machine precision differ by a relatively great value between single and double precision. Thus, making double precision way more accurate and precise, as any numerical value smaller than machine precision is as good as 0 to the computer.
2. We multiply eps by 2 at the end to obtain Machine Precision, because we have divided it at every iteration by 2 and therefore, we know that at the (n-1) th iteration, 1+eps > 1. Therefore, we know that any value above this (n-1) th eps is actually considered and not rounded off to 0.