

**M353 Tutorial/Lab 1** (S. Zhang) .

1. Find the  $fl(x)$  in Matlab,

$$x = ((1 + 2^{-53}) + 2^{-53}) - 1$$

Answer:

```
( (1+2^(-53)) +2^(-53) ) - 1  
ans = 0
```

2. Find the  $fl(x)$  in Matlab,

$$x = (1 + (2^{-53} + 2^{-53})) - 1$$

**M353 Tutorial/Lab 2** (S. Zhang) .

1. Find the largest number in Matlab by repeatedly multiplying 1 by 2. The largest number is the the last one which would become infinity if multiplied by 2.

Answer:

```
%% method 1  
format long  
n=1;  
for i=1:10000,  
    m=n; n=n*2;  
    if n == Inf, break; end,  
end, m  
%% Method 2. -- try  
2^1023  
2^1024
```

2. Find the smallest positive number in Matlab by repeatedly dividing 1 by 2. Output the last number before 0.