

a. 2^{-30}

```
IEEE-754: 0 01100001 000000000000000000000000
PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\
iles\lib\python\debugpy\launcher' '52498' '--
Enter number: 2^-30
IEEE-754: 0 01100001 000000000000000000000000
PS C:\Users\ythua\vscode\IEEE754> █
```

b. 64.015625

```
iles\lib\python\debugpy\launcher' '52514' '--
Enter number: 64.015625
IEEE-754: 0 10000101 000000000001000000000000
PS C:\Users\ythua\vscode\IEEE754> █
```

c. -8×2^{-24}

```
iles\lib\python\debugpy\launcher' '52523' '--
Enter number: -8 x 2^-24
IEEE-754: 1 01101010 000000000000000000000000
PS C:\Users\ythua\vscode\IEEE754> █
```

d. 0.5

```
PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\
iles\lib\python\debugpy\launcher' '52537' '--
Enter number: 0.5
IEEE-754: 0 01111110 000000000000000000000000
PS C:\Users\ythua\vscode\IEEE754> █
```

e. 42.424242

```
PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\
iles\lib\python\debugpy\launcher' '52546' '--
Enter number: 42.424242
IEEE-754: 0 10000100 01010011011001001101100
PS C:\Users\ythua\vscode\IEEE754> █
```

f. $76.234567 \times 10^{-15}$

```

PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\Users\ythua\vscode\IEEE754\files\lib\python\debugpy\launcher' '52556' '--'
Enter number: 76.234567 x 10^-15
IEEE-754: 0 01010011 01010111010101000111100
PS C:\Users\ythua\vscode\IEEE754>

```

g. 1.4345678

```

PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\Users\ythua\vscode\IEEE754\files\lib\python\debugpy\launcher' '52570' '--'
Enter number: 1.4345678
IEEE-754: 0 01111111 01101111001111111101011
PS C:\Users\ythua\vscode\IEEE754>

```

h. 3.141592653589793238462643383279502884

```

PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\Users\ythua\vscode\IEEE754\files\lib\python\debugpy\launcher' '52579' '--' 'c:\Users\ythua\vscode\IEEE754\files\lib\python\debugpy\launcher' '52579' '--'
Enter number: 3.141592653589793238462643383279502884
IEEE-754: 0 10000000 10010010000111111011011
PS C:\Users\ythua\vscode\IEEE754>

```

i. 3.14

```

PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\Users\ythua\vscode\IEEE754\files\lib\python\debugpy\launcher' '52589' '--'
Enter number: 3.14
IEEE-754: 0 10000000 10010001111010111000011
PS C:\Users\ythua\vscode\IEEE754>

```

j. 17/31

```

PS C:\Users\ythua\vscode\IEEE754> c:; cd 'c:\Users\ythua\vscode\IEEE754\files\lib\python\debugpy\launcher' '52599' '--'
Enter number: 17/31
IEEE-754: 0 01111110 00011000110001100011001
PS C:\Users\ythua\vscode\IEEE754>

```