

COMP1002 Assessment 1

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Q1

Input: A positive integer D

Output: Binary representation B of the positive integer D

Pseudocode:

Set $B = 0$ and n is the number that the procedure repeated

Repeat

 Calculate $D \div 2$

 If the remainder is 1, then $B = B + 1 \times 10^{n-1}$

 Else the remainder is 0, $B = B + 0 \times 10^{n-1}$

Until the quotient is 0, print B

Q2

Input: Text string

Output: Number of each English words (N) in the text, which has 5 or more letters.

Pseudocode:

Set $N = 0$

Divide the text string into distinctive English words with the whitespace.

Repeat the following steps for every English words:

 If the English word contains a punctuation,

 If the length of the English word is less than 6, then $N = N$

 Else, $N = N + 1$

 Else

 If the length of the English word is less than 5, then $N = N$

 Else, $N = N + 1$

Q3

Bob act like a procedure.

Input: use money to buy 3 oranges, 2 apple, and 6 eggs from Alice

Output: put the items on a table

Bob doesn't act like a function because Bob don't turns out a specific value, and Bob act sequentially.

Q4

Steps

```
1  dec = 17
2  bi = []
3  while dec >= 0:
4      r = dec % 2
5      q = dec // 2
6      bi = bi + [r]
7      if q == 0:
8          break
9      dec = q
10 bi.reverse()
11 bi1=[str(x) for x in bi]
12 print(''.join(bi1))
```

Output:

```
Windows PowerShell
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尝试新的跨平台 PowerShell https://aka.ms/pscore6

PS C:\Users\zoezh\OneDrive - The Hong Kong Polytechnic University\Desktop> & 'C:\Users\zoezh\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\zoezh\.vscode\extensions\ms-python.python-2021.9.1246542782\pythonFiles\lib\python\debugpy\launcher' '49992' '--' 'c:\Users\zoezh\OneDrive - The Hong Kong Polytechnic University\Desktop\Q4.py'
10001
PS C:\Users\zoezh\OneDrive - The Hong Kong Polytechnic University\Desktop> █
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