Q1.   Since computers use only 0 or 1, 2^9=512< 1000 < 2^10==1024, so 10 bits .

Q2.

10(10) = 00001010(2)
120(10)=01111000(2)

-------------------------------------   in 2's complement, 1+1 = 10 , 0+1 = 1, 0+0 = 0, 1+1+1 = 11
130(10)=10000010(2)   and the computer use this to sum numbers.

```
         ( start )
             │
             ▼
   ⟨ Please input 0 or 1 or 2 ⟩
             │
             ▼
   [ user hand input ]
             │
             ▼
          ╱ draw ╲ ─────────── YES ──────────┐
          ╲      ╱                           │
             │ NO                            │
             ▼                               │
          ╱ win ╲ ──────── YES ──────┐       │
          ╲     ╱                    │       │
             │ NO                    │       │
             ▼                       │       │
   ⟨ Computer won ⟩                  │       │
             │                       │       │
   ( end ) ◀─┤                       │       │
        ◀────── ⟨ You won ⟩ ◀────────┘       │
        ◀────── ⟨ It's a draw ⟩ ◀────────────┘
```

```mermaid
flowchart TD
    start([start])
    input[/Please input 0 or 1 or 2\]
    userhand[\user hand input/]
    draw{draw}
    win{win}
    compwon[Computer won]
    youwon[You won]
    itsadraw[It's a draw]
    over{Over Round 5 and abs(userWinNum -compWinNum)>2}
    ennd([end])

    start --> input
    input --> userhand
    userhand --> draw
    draw -- YES --> itsadraw
    draw -- NO --> win
    win -- YES --> youwon
    win -- NO --> compwon
    compwon --> over
    youwon --> over
    itsadraw --> over
    over --> input
    over --> ennd
```

- start
- Please input 0 or 1 or 2
- user hand input
- draw
  - YES
  - NO
- win
  - YES
  - NO
- Computer won
- You won
- It's a draw
- Over Round 5 and abs(userWinNum -compWinNum)>2
- end