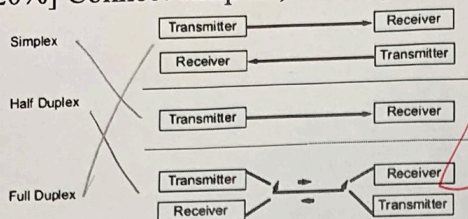


[A] Name: 游舜竹 ID: b10902011.

1. [20%] Connect simplex, half duplex and full duplex to the correct picture.



2. [20%] Explain the purpose of REN and RB8 in SCON register.

REN=1, 才允許接收資料, 就像把信箱打開。

RB8: 在 mode 2-3, 為第 9th data, 可以拿來偵錯。
(奇偶同位)

3. [30%] Write code to send the mes string.

```
#include <reg51.h>
```

```
code char mes[]="Hello Kitty";
```

```
main()
```

```
{
```

```
    char *str;
```

```
    SM0=0;
```

```
    SM1=1;
```

```
    TMOD=0x20;
```

```
    TH1=0xfd;
```

```
    TL1=0xfd;
```

```
    TR1=1;
```

```
    str=mes;
```

```
    while(*str != '\0')
```

```
    {
```

```
        (SBUF)=*str++;
```

```
        while(TI==0);
```

```
        TI=(0);
```

```
    }
```

```
}
```

3. [30%] There are two ways to leave the idle mode:

- When any enabled interrupt generates an interrupt request, CPU will automatically set IDL=0, and the CPU will go to execute the interrupt function. After the interrupt function is executed, CPU will jump to (IDL=1 的下一行程式).
- (reset) will also make IDL=0, all registers are reset to their initial values, and the CPU starts to execute the program from ROM address 0000H.

