

Test Cases

Part A - 20 Cases

```
[11]: mpin = ["0000", "1234", "4321", "1111", "1212", "0007", "7890", "2468", "1357", "1122", "9876", "1023", "9999", "2110", "7788", "1221", "2308", "3456", "4567"]
      for i in mpin:
          partA(i)
```

It is a commonly used pin
 It is a commonly used pin
 It is not a commonly used pin
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 It is not a commonly used pin

Part B- 20 Cases

```
[12]: mpin = ["0000", "1234", "4321", "1111", "1212", "0007", "7890", "2468", "1357", "1122",
            "9876", "1023", "9999", "2110", "7788", "1221", "2308", "3456", "8080", "9091"]

dob_self = [
    "01-Jan-2000", "04-Apr-1990", "07-Jul-1988", "10-Oct-1975", "13-Jan-1960",
    "16-Apr-2003", "19-Jul-2011", "22-Oct-1980", "25-Jan-1970", "28-Apr-1965",
    "01-Jul-2001", "04-Oct-1999", "07-Jan-2005", "10-Apr-2010", "13-Jul-2013",
    "16-Oct-2016", "19-Jan-2019", "22-Apr-2022", "25-Jul-2025", "28-Oct-2028"
]

dob_spouse = [
    "02-Feb-2001", "05-May-1992", "08-Aug-1989", "11-Nov-1976", "14-Feb-1961",
    "17-May-2004", "20-Aug-2012", "23-Nov-1981", "26-Feb-1971", "29-May-1966",
    "02-Aug-2002", "05-Nov-2000", "08-Feb-2006", "11-May-2011", "14-Aug-2014",
    "17-Nov-2017", "20-Feb-2020", "23-May-2023", "26-Aug-2026", "29-Nov-2029"
]

anniversary = [
    "03-Mar-2010", "06-Jun-2015", "09-Sep-2000", "12-Dec-2005", "15-Mar-1999",
    "18-Jun-2020", "21-Sep-2022", "24-Dec-2010", "27-Mar-1995", "30-Jun-1988",
    "03-Sep-2021", "06-Dec-2023", "09-Mar-2010", "12-Jun-2012", "15-Sep-2015",
    "18-Dec-2018", "21-Mar-2021", "24-Jun-2024", "27-Sep-2027", "30-Dec-2030"
]

for i in range(len(mpin)):
    partB(mpin[i], dob_self[i], dob_spouse[i], anniversary[i])
```

Strength: WEAK
Strength: WEAK
Strength: STRONG
Strength: WEAK
Strength: WEAK
Strength: STRONG
Strength: WEAK
Strength: STRONG
Strength: STRONG
Strength: WEAK
Strength: STRONG
Strength: WEAK
Strength: WEAK
Strength: WEAK
Strength: STRONG

Part C- 20 Cases

```
[13]: for i in range(len(mpin)):
      partC(mpin[i], dob_self[i], dob_spouse[i], anniversary[i])

Strength: Weak ['COMMONLY_USED']
Strength: Weak ['COMMONLY_USED']
Strength: Strong []
Strength: Weak ['COMMONLY_USED', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['COMMONLY_USED']
Strength: Strong []
Strength: Weak ['COMMONLY_USED']
Strength: Strong []
Strength: Strong []
Strength: Weak ['COMMONLY_USED']
Strength: Strong []
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY']
Strength: Weak ['COMMONLY_USED']
Strength: Weak ['COMMONLY_USED']
Strength: Weak ['COMMONLY_USED']
Strength: Weak ['COMMONLY_USED']
Strength: Strong []
Strength: Strong []
Strength: Weak ['COMMONLY_USED']
Strength: Strong []
```

Part D- 20 Cases

```
[14]: mpin = ["010200", "040492", "078988", "101175", "136061", "160604", "190811", "221080", "251970", "280465",
             "010802", "041099", "070105", "101210", "131313", "161618", "192021", "222423", "251725", "281230"]

for i in range(len(mpin)):
    partD(mpin[i], dob_self[i], dob_spouse[i], anniversary[i])

Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY']
Strength: Strong []
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY', 'DEMOGRAPHIC_DOB_SPOUSE']
Strength: Strong []
Strength: Weak ['DEMOGRAPHIC_DOB_SELF', 'DEMOGRAPHIC_ANNIVERSARY']
```