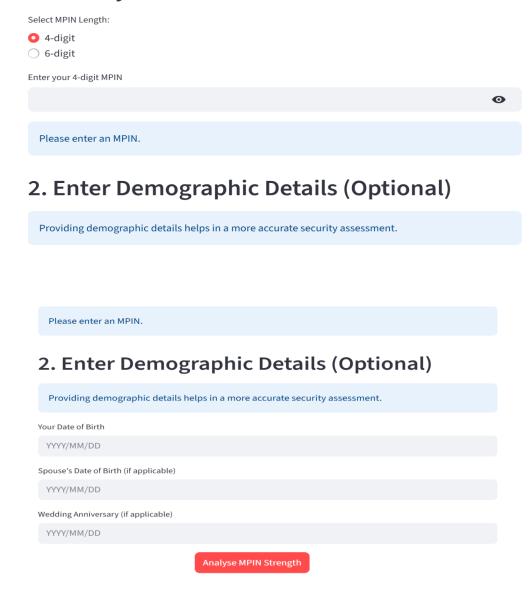


Evaluate the security strength of your MPIN based on common patterns and demographic data.

# 1. Enter your MPIN



Spouse's Date of Birth (if applicable) YYYY/MM/DD Wedding Anniversary (if applicable) YYYY/MM/DD Analyse MPIN Strength

#### Strength Analysis Explained:

- Commonly Used PINs: Easily guessable PINs like 1234, 1111, 2020, etc.
- Demographic-Based PINs: Personalised but predictable patterns derived from your demographic
  - $\circ\quad \mbox{Your Date of Birth:}$  Patterns derived from your own birth date.
  - Spouse's Date of Birth: Patterns derived from your spouse's birth date.
  - $\circ \quad \textbf{Wedding Anniversary:} \ \textbf{Patterns derived from your wedding anniversary.}$

# **TEST CASES**

Test Case 1: MPIN-1234 (4 Digit)

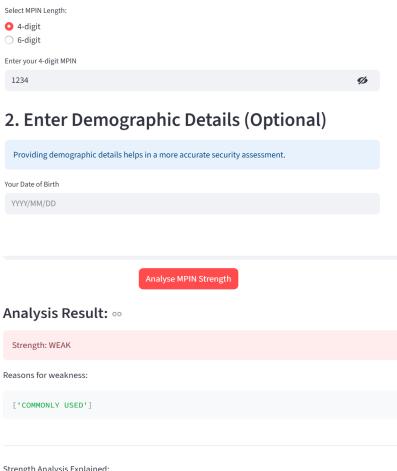
Strength- WEAK

Reason-['COMMONLY USED']

# **MPIN Strength Analyser**

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN



Strength Analysis Explained:

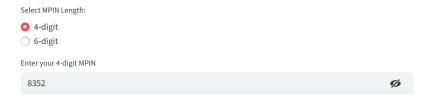
- Commonly Used PINs: Easily guessable PINs like 1234, 1111, 2020, etc.
- Demographic-Based PINs: Personalised but predictable patterns derived from your demographic
  - o Your Date of Birth: Patterns derived from your own birth date.
  - o Spouse's Date of Birth: Patterns derived from your spouse's birth date.
  - o Wedding Anniversary: Patterns derived from your wedding anniversary.

#### Strength- STRONG

# **MPIN Strength Analyser**

Evaluate the security strength of your MPIN based on common patterns and demographic data.

#### 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)

Providing demographic details	helps in a more accurate sec	curity assessment.	
Your Date of Birth			
YYYY/MM/DD			
YYYY/MM/DD			
	Analyse MPIN Strength		

#### **Analysis Result:**

Strength: STRONG

Your MPIN is strong based on the provided criteria.

Strength Analysis Explained:

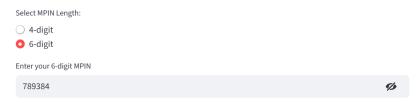
- Commonly Used PINs: Easily guessable PINs like 1234, 1111, 2020, etc.
- Demographic-Based PINs: Personalised but predictable patterns derived from your demographic data.
  - o Your Date of Birth: Patterns derived from your own birth date.
  - o Spouse's Date of Birth: Patterns derived from your spouse's birth date.
  - o Wedding Anniversary: Patterns derived from your wedding anniversary.

Test Case 3: MPIN-789384 (6 Digit)

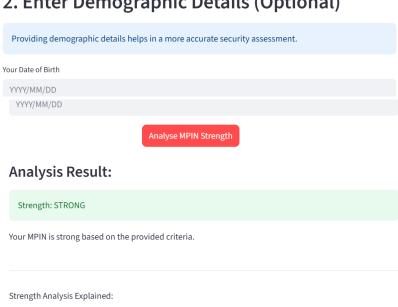
Strength-STRONG

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)



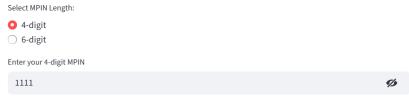
- Commonly Used PINs: Easily guessable PINs like 1234, 1111, 2020, etc.
- Demographic-Based PINs: Personalised but predictable patterns derived from your demographic
  - o Your Date of Birth: Patterns derived from your own birth date.
  - o Spouse's Date of Birth: Patterns derived from your spouse's birth date.
  - o Wedding Anniversary: Patterns derived from your wedding anniversary.

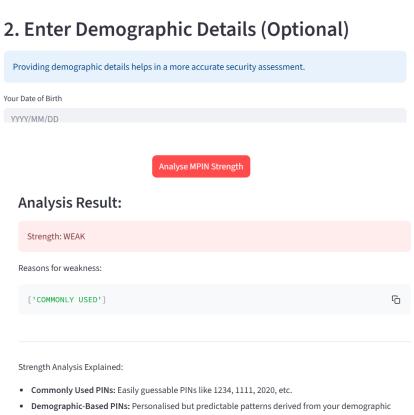
Test Case 4: MPIN-1111 (4 Digit)

Strength-WEAK

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN





Test Case 5: MPIN-777777 (6 Digit)

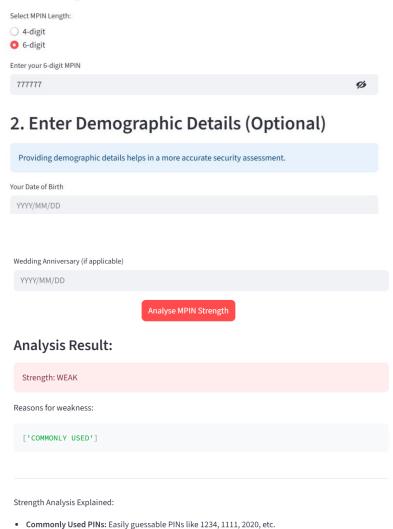
Strength-WEAK

Reason-['COMMONLY USED']

 $\circ\quad \mbox{Your Date of Birth:}$  Patterns derived from your own birth date. o Spouse's Date of Birth: Patterns derived from your spouse's birth date. o Wedding Anniversary: Patterns derived from your wedding anniversary.

Evaluate the security strength of your MPIN based on common patterns and demographic data.

#### 1. Enter your MPIN



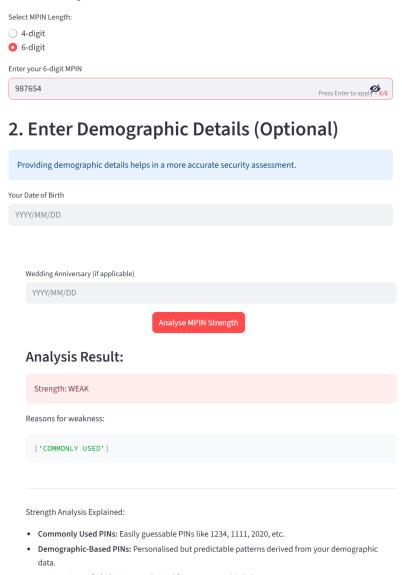
• Demographic-Based PINs: Personalised but predictable patterns derived from your demographic

Test Case 6: MPIN-987645 (6 Digit)

Strength- WEAK

 $\label{thm:equality:equal} \textbf{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

## 1. Enter your MPIN

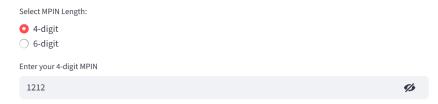


Test Case 7: MPIN-1212 (4 Digit)

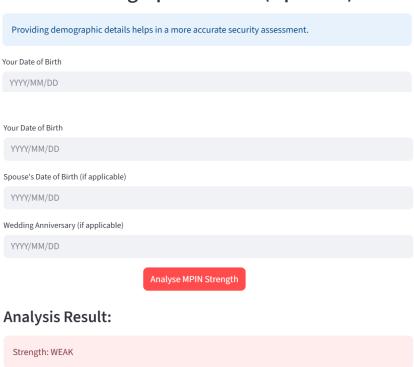
Strength- WEAK

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)



Test Case 8: MPIN-123321 (6 Digit)

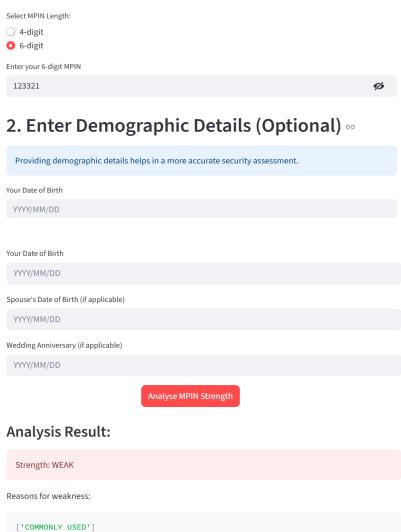
Reasons for weakness:

['COMMONLY USED']

Strength- WEAK

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN



Test Case 9: MPIN-0718 (4 Digit)

Self DOB- 1995/07/18

Strength- WEAK

Reason-['DEMOGRAPHIC DOB SELF']

 $\label{thm:equality:equal} \mbox{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

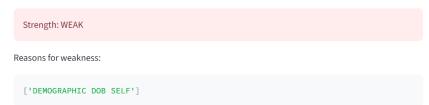
## 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)

Providing demographic details h	elps in a more accurate security assessment.	
Your Date of Birth		
1995/07/18		8
Spouse's Date of Birth (if applicable)		
YYYY/MM/DD		
Wedding Anniversary (if applicable)		
YYYY/MM/DD		
	Analyse MPIN Strength	

#### **Analysis Result:**



Test Case 10: MPIN-8503 (4 Digit)

Strength- WEAK

Self DOB- 1985/03/03

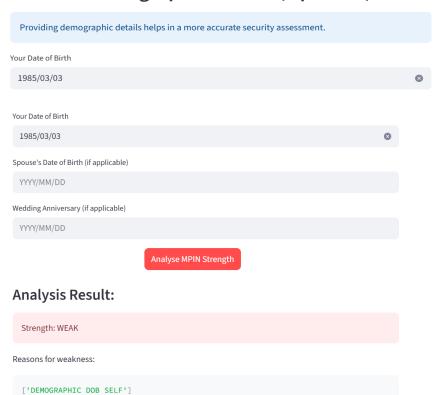
Reason-['DEMOGRAPHIC DOB SELF']

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)



Test Case 11: MPIN-2209 (4 Digit)

Strength- WEAK

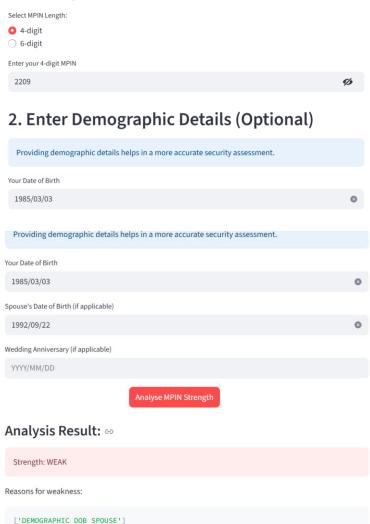
Self DOB- 1985/03/03

Spouse DOB- 1992/09/22

Reason-['DEMOGRAPHIC DOB SPOUSE']

 $\label{thm:equality:equal} \textbf{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

#### 1. Enter your MPIN



Test Case 12: MPIN-042005 (6 Digit)

Self DOB- 1982/12/12

Spouse DOB- 1981/02/22

Wedding Anniversary- 2005/04/20

Strength- WEAK

Reason-['DEMOGRAPHIC ANNIVERSARY']

 $\label{thm:equality:equal} \mbox{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

## 1. Enter your MPIN

Select MPIN Length:	
○ 4-digit	
4-digit 6-digit	
Enter your 6-digit MPIN	
042005	¶5

## 2. Enter Demographic Details (Optional)

Providing demographic details helps in a more accurate security assessment.		
Your Date of Birth		
1982/12/12		8
Your Date of Birth		
1982/12/12	0	
Spouse's Date of Birth (if applicable)		
1981/02/22	0	
Wedding Anniversary (if applicable)		
2005/04/20	0	
Analyse MPIN Strength		
Analysis Result: ⇔		
Strength: WEAK		
Reasons for weakness:		
['DEMOGRAPHIC ANNIVERSARY']		

Test Case 13: MPIN-202007 (6 Digit)

Self DOB- 1982/12/12

Spouse DOB- 1999/02/22

Wedding Anniversary- 2020/10/07

Strength- WEAK

Reason-['DEMOGRAPHIC ANNIVERSARY']

# **MPIN Strength Analyser** Evaluate the security strength of your MPIN based on common patterns and demographic data. 1. Enter your MPIN Select MPIN Length: 4-digit O 6-digit Enter your 6-digit MPIN 202007 9/3 2. Enter Demographic Details (Optional) Providing demographic details helps in a more accurate security assessment. Your Date of Birth 1982/12/12 Providing demographic details helps in a more accurate security assessment. Your Date of Birth 1982/12/12 $\otimes$ Spouse's Date of Birth (if applicable) 1999/02/22 Wedding Anniversary (if applicable) 2020/10/07 Analyse MPIN Strength **Analysis Result:** Strength: WEAK Reasons for weakness:

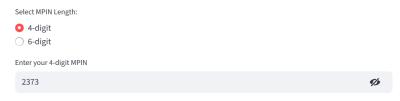
Test Case 14: MPIN-2373 (4 Digit)

Strength- STRONG

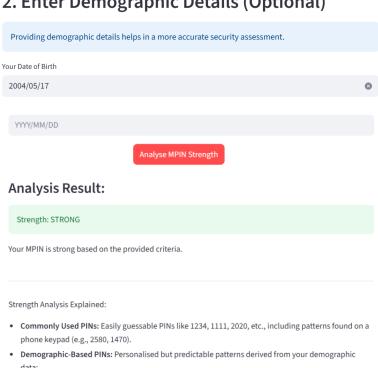
['DEMOGRAPHIC ANNIVERSARY']

Evaluate the security strength of your MPIN based on common patterns and demographic data.

#### 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)



Test Case 15: MPIN- 2004 (4 Digit)

Strength- WEAK

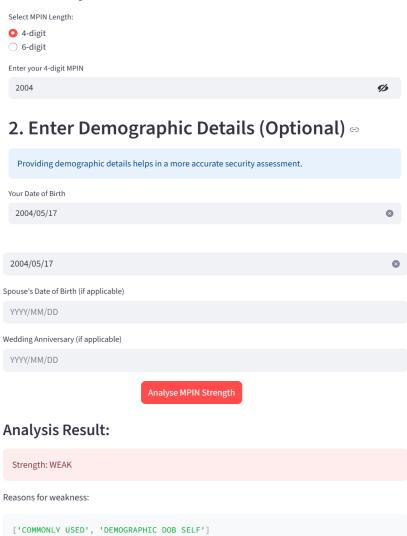
Self DOB- 2004/05/17

o Your Date of Birth: Patterns derived from your own birth date. o Spouse's Date of Birth: Patterns derived from your spouse's birth date. o Wedding Anniversary: Patterns derived from your wedding anniversary.

Reason-['COMMONLY USED', 'DEMOGRAPHIC DOB SELF']

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN

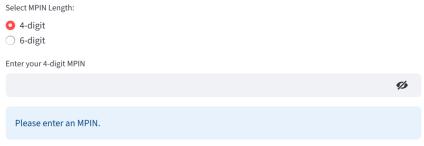


Test Case 16: MPIN-EMPTY (4 Digit)

WARNING- Please enter a MPIN to analyse.

 $\label{thm:prop:model} \mbox{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

## 1. Enter your MPIN



2. Enter Demographic Details (Optional)	
Providing demographic details helps in a more accurate security assessment.	
our Date of Birth	
Please enter an MPIN.	
2. Enter Demographic Details (Optional)	
Providing demographic details helps in a more accurate security assessment.	
Your Date of Birth	
YYYY/MM/DD	
Spouse's Date of Birth (if applicable)	
YYYY/MM/DD	
Wedding Anniversary (if applicable)	
YYYY/MM/DD	
Analysis MOUN Character	

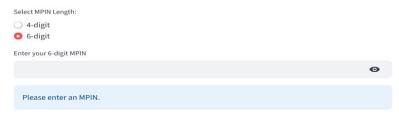
Test Case 17: MPIN- EMPTY (6 Digit)

Please enter an MPIN to analyse.

WARNING- Please enter a MPIN to analyse.

 $\label{thm:equality:equal} \mbox{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

#### 1. Enter your MPIN



2. Enter Demographic Details (Optional)
Providing demographic details helps in a more accurate security assessment.
Please enter an MPIN.
2. Enter Demographic Details (Optional)
Providing demographic details helps in a more accurate security assessment.
Your Date of Birth
YYYY/MM/DD
Spouse's Date of Birth (if applicable)
YYYY/MM/DD
Wedding Anniversary (if applicable)
YYYY/MM/DD
Analyse MPIN Strength

Test Case 18: MPIN- 2004 (4 Digit)

Please enter an MPIN to analyse.

Strength- WEAK

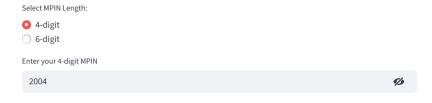
Self DOB- 2004/05/17

Spouse DOB- 2004/08/01

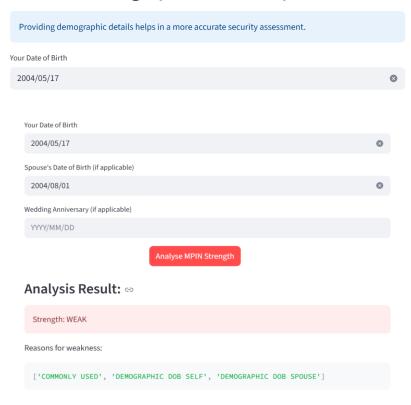
Reason-['COMMONLY USED', 'DEMOGRAPHIC DOB SELF', 'DEMOGRAPHIC DOB SPOUSE']

Evaluate the security strength of your MPIN based on common patterns and demographic data.

## 1. Enter your MPIN



## 2. Enter Demographic Details (Optional) 🖘



Test Case 19: MPIN- 12A3 (4 Digit)

WARNING- MPIN must contain only digits.

Evaluate the security strength of your MPIN based on common patterns and demographic data.

#### 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)

Providing demographic details helps in a more accurate security assessment.

Test Case 20: MPIN-AB1234 (6 Digit)

WARNING- MPIN must contain only digits.

# **MPIN Strength Analyser**

 $\label{thm:common patterns} \mbox{Evaluate the security strength of your MPIN based on common patterns and demographic data.}$ 

## 1. Enter your MPIN



## 2. Enter Demographic Details (Optional)

Providing demographic details helps in a more accurate security assessment.

#### run analysis.py

```
--- MPIN Strength Analysis Results ---
                                                         Test Case 5: Commonly Used: 1221 (palindromic)
                                                          MPIN: 1221
Test Case 1: Commonly Used: 1234 (sequential)
                                                           Strength: WEAK
 MPIN: 1234
                                                           Reasons: COMMONLY USED
 Strength: WEAK
 Reasons: COMMONLY_USED
                                                         Test Case 6: Commonly Used: 1122 (consecutive repeating pairs)
                                                          MPIN: 1122
Test Case 2: Commonly Used: 1111 (all same digits)
                                                           Strength: WEAK
 MPIN: 1111
                                                           Reasons: COMMONLY_USED
 Strength: WEAK
 Reasons: COMMONLY_USED
                                                         Test Case 7: DOB Self: 0102 (MMDD)
                                                          MPIN: 0102
Test Case 3: Commonly Used: 4321 (reverse sequential)
                                                           Demographics: {'dob_self': '1998-01-02'}
 MPIN: 4321
                                                           Strength: WEAK
 Strength: WEAK
                                                           Reasons: DEMOGRAPHIC DOB SELF
 Reasons: COMMONLY_USED
                                                         Test Case 8: DOB Self: 0201 (DDMM)
Test Case 4: Commonly Used: 1212 (repeating pair)
                                                          MPIN: 0201
 MPIN: 1212
                                                           Demographics: {'dob_self': '1998-01-02'}
 Strength: WEAK
                                                           Strength: WEAK
 Reasons: COMMONLY_USED
                                                           Reasons: DEMOGRAPHIC_DOB_SELF
```

```
Test Case 9: DOB Self: 9801 (YYMM)
  MPIN: 9801
                                                             Test Case 13: Pet DOB: 1101 (MMDD)
  Demographics: {'dob_self': '1998-01-02'}
                                                              MPIN: 1101
  Strength: WEAK
                                                              Demographics: {'pet_dob': '2015-11-01'}
  Reasons: DEMOGRAPHIC_DOB_SELF
                                                              Strength: STRONG
                                                              Reasons: None
Test Case 10: DOB Spouse: 1215 (MMDD)
 MPIN: 1215
                                                             Test Case 14: Strong: 3841
  Demographics: {'dob_spouse': '1997-12-15'}
                                                              MPIN: 3841
  Strength: WEAK
                                                              Strength: STRONG
  Reasons: DEMOGRAPHIC_DOB_SPOUSE
                                                              Reasons: None
Test Case 11: Anniversary: 0304 (MMDD)
                                                             Test Case 15: Combined Weakness: DOB Self & Anniversary
  MPIN: 0304
                                                              MPIN: 0102
  Demographics: {'anniversary': '2022-03-04'}
                                                              Demographics: {'dob_self': '1998-01-02', 'anniversary': '2022-03-04'}
  Strength: WEAK
                                                              Strength: WEAK
  Reasons: DEMOGRAPHIC_ANNIVERSARY
                                                              Reasons: DEMOGRAPHIC_DOB_SELF
Test Case 12: Child DOB: 0520 (MMDD)
                                                             Test Case 16: Commonly Used: 123456 (sequential)
  MPIN: 0520
                                                              MPIN: 123456
  Demographics: {'child_dob': '2010-05-20'}
                                                              Strength: WEAK
  Strength: STRONG
                                                              Reasons: COMMONLY USED
```

```
Test Case 21: Strong: 940281
Test Case 17: Commonly Used: 111111 (all same digits)
                                                            MPIN: 940281
 MPIN: 111111
                                                            Strength: STRONG
  Strength: WEAK
                                                            Reasons: None
 Reasons: COMMONLY_USED
                                                           Test Case 22: Partial match: 0298 (DDYY from DOB Self MMDDYY)
Test Case 18: DOB Self: 010298 (MMDDYY)
                                                            MPIN: 0298
 MPIN: 010298
                                                            Demographics: {'dob_self': '1998-01-02'}
 Demographics: {'dob_self': '1998-01-02'}
                                                            Strength: WEAK
 Strength: WEAK
 Reasons: DEMOGRAPHIC_DOB_SELF
                                                            Reasons: DEMOGRAPHIC DOB SELF
                                                           Test Case 23: Partial match: 9801 (YYMM from DOB Self YYYYMM)
Test Case 19: DOB Spouse: 151297 (DDMMYY)
                                                            MPIN: 9801
 MPIN: 151297
                                                            Demographics: {'dob_self': '1998-01-02'}
 Demographics: {'dob_spouse': '1997-12-15'}
                                                            Strength: WEAK
  Strength: WEAK
                                                            Reasons: DEMOGRAPHIC DOB SELF
 Reasons: DEMOGRAPHIC DOB SPOUSE
                                                           Test Case 24: Strong: 7263
Test Case 20: Anniversary: 202203 (YYYYMM)
                                                            MPIN: 7263
 MPIN: 202203
                                                            Strength: STRONG
 Demographics: {'anniversary': '2022-03-04'}
                                                            Reasons: None
  Strength: WEAK
```