

```
"""
Write a function to determine whether the password satisfies the following conditions:
1. Length is between 8-20 characters
2. At least 1 Capital letter
3. At least 1 Lower Case letter
4. At least 1 number
5. At least 1 special character
"""
```

```
import re
```

```
password=input("Please enter your password: ")
```

```
➦ Please enter your password: test123
```

✓ Functions that are used to check each condition

```
def check_length(password):
    length=False
    password_length=len(password)
    if password_length>=8 and password_length<=20:
        length=True
    return length
```

```
def check_capital(password):
    capital=False
    for char in password:
        if char.isupper():
            capital=True
    return capital
```

```
def check_lower(password):
    lower=False
    for char in password:
        if char.islower():
            lower=True
    return lower
```

```
def check_number(password):
    num=False
    for char in password:
        if char.isdigit():
            num=True
    return num
```

```
pattern=r'[!@#$$%^&*(),.?":{}|<>]'
```

```
def check_special(password):
    special=False
    if re.search(pattern, password):
        special=True
    return special
```

✓ Check Password and output whether it passed the test

If it didn't, then it will also output the conditions it fails to meet

```
if check_capital(password) and check_length(password) and check_lower(password) and check_number(password) and check_special(password):
    print("The password is valid and contains all the elements required")
else:
    false_conditions=[]

    if not check_capital(password):
        false_conditions.append("No capitalization\n")
    if not check_length(password):
        false_conditions.append("Not between 8 and 20 characters\n")
```

```
false_conditions.append('Not between 8 and 20 characters\n')  
if not check_lower(password):  
    false_conditions.append("No lower case\n")  
if not check_number(password):  
    false_conditions.append("No number\n")  
if not check_special(password):  
    false_conditions.append("No special character\n")  
print("The password failed to satisfy the requirements:")  
print(false_conditions)
```



The password failed to satisfy the requirements:
['No capitalization\n', 'Not between 8 and 20 characters\n', 'No special character\n']

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