

```
"""
```

```
CP1404/CP5632 - Practical - Suggested Solution
```

```
Password checker built from "skeleton" code to help you get started
```

```
"""
```

```
MIN_LENGTH = 2
```

```
MAX_LENGTH = 6
```

```
SPECIAL_CHARS_REQUIRED = False
```

```
SPECIAL_CHARACTERS = "!@#$%^&*()_-=+`~,./'[]<>?{}|\\\"
```

```
def main():
```

```
    """Program to get and check a user's password."""
```

```
    print("Please enter a valid password")
```

```
    print("Your password must be between", MIN_LENGTH, "and", MAX_LENGTH,  
          "characters, and contain:")
```

```
    print("\t1 or more uppercase characters")
```

```
    print("\t1 or more lowercase characters")
```

```
    print("\t1 or more numbers")
```

```
    if SPECIAL_CHARS_REQUIRED:
```

```
        print("\tand 1 or more special characters: ", SPECIAL_CHARACTERS)
```

```
    password = input("> ")
```

```
    while not is_valid_password(password):
```

```
        print("Invalid password!")
```

```
        password = input("> ")
```

```
    print("Your " + str(  
        len(password)) + " character password is valid: " + password)
```

```
def is_valid_password(password):
```

```
    """Determine if the provided password is valid."""
```

```
    # TODO: if length is wrong, return False
```

```
    if len(password) < MIN_LENGTH or len(password) > MAX_LENGTH:  
        return False
```

```
    count_lower = 0
```

```
    count_upper = 0
```

```
    count_digit = 0
```

```
    count_special = 0
```

```
    for char in password:
```

```
        # TODO: count each kind of character (use str methods like isdigit)
```

```
        if char.isdigit():
```

```
            count_digit += 1
```

```
        elif char.islower():
```

```
            count_lower += 1
```

```
        elif char.isupper():
```

```
            count_upper += 1
```

```
        elif char in SPECIAL_CHARACTERS:
```

```
            count_special += 1
```

```
    # TODO: if any of the 'normal' counts are zero, return False
```

```
    if count_lower == 0 or count_upper == 0 or count_digit == 0:  
        return False
```

```
    # TODO: if special characters are required, then check the count of those  
    # and return False if it's zero
```

```
    if SPECIAL_CHARS_REQUIRED:
```

```
    if count_special == 0:  
        return False
```

```
# if we get here (without returning False), then the password must be valid  
return True
```

```
main()
```