Q1: Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included).

```
for num in range(1500, 2701):
    if num % 7 == 0 and num % 5 == 0:
        print(num)
```

Q2: Write a Python program to convert temperatures to and from Celsius, Fahrenheit. [Formula: c/5 = f-32/9 [where c = temperature in Celsius and f = temperature in Fahrenheit.

```
def celtofah(c):
    return int (c*9/5)+32

def fahtocel(f):
    return int (5 *(f-32)/9)

print("1. Celcius to Fahrenheir conversion")
print("2. Farhenheit to Celcius conversion")

user_input = int(input("Enter your choice: "))

if user_input == 1:
    print("Result:", celtofah(60))
elif user_input==2:
    print("Result:", fahtocel(45))
else:
    print("invalid input. Give thr input again.")
```

Q3: Write a Python program to guess a number between 1 to 9.

```
import random
target = random.randint(1, 9)

while True:
    guess = int(input("Guess a number between 1 and 9: "))
    if guess == target:
        print("Well guessed!")
        break
```

Q4: Write a Python program to construct the following pattern, using a nested loop.

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

```
for i in range(1, 6):
    print('* ' * i)
for i in range(4, 0, -1):
    print('* ' * i)
```

Q5: Write a Python program that accepts a word from the user and reverse it.

```
word = input("Enter a word: ")
reverse_word = (word[::-1])
print("Reversed word", reverse_word)
```

Q6: Write a Python program to count the number of even and odd numbers from a series of numbers.

```
numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)
even = odd = 0

for n in numbers:
    if n % 2 == 0:
        even += 1
    else:
        odd += 1

print("Number of even numbers:", even)
print("Number of odd numbers:", odd)
```

Q7: Write a Python program that prints each item and its corresponding type from the following list.datal

```
ist = [1452, 11.23, 1+2j, True, 'w3resource', (0, -1), [5, 12], {"class":'V', "section":'A'}]
for item in datalist:
    print(f"{item} is of type {type(item)}")
```

Q8: Write a Python program that prints all the numbers from 0 to 6 except 3 and 6.for x in range(7):

```
    if x == 3 or x == 6:
        continue
    print(x, end=" ")
```

Q9: Write a Python program to get the Fibonacci series between 0 to 50. **Note: The Fibonacci Sequence is the series of numbers: 0, 1, 1, 2, 3, 5, 8, 13, 21, ...**

```
a, b = 0, 1
while b < 50:
    print(b, end=" ")
    a, b = b, a + b
```

Q10: Write a Python program which takes two digits m (row) and n (column) as input and generates a two-dimensional array. The element value in the i-th row and j-th column of the array should be i*j.

```
rows = int(input("Enter number of rows: "))
```

```
cols = int(input("Enter number of columns: "))

array = [[i * j for j in range(cols)] for i in range(rows)]
print(array)
```

Q11: Write a Python program that accepts a sequence of lines (blank line to terminate) as input and prints the lines as output (all characters in lower case).

```
print("Enter lines (blank line to stop):")
lines = []

while True:
    line = input()
    if not line:
        break
    lines.append(line.lower())

print("\n".join(lines))
```

Q12: Write a Python program which accepts a sequence of comma separated 4 digit binary numbers as its input and print the numbers that are divisible by 5 in a comma separated sequence.

```
binary_input = input("Enter 4-digit binary numbers separated by commas: ").split(",")
div_by_5 = [b for b in binary_input if int(b, 2) % 5 == 0]
print(",".join(div_by_5))
```

Q13: Write a Python program that accepts a string and calculate the number of digits and letters.

```
s = input("Enter a string: ")
letters = sum(c.isalpha() for c in s)
digits = sum(c.isdigit() for c in s)

print(f"Letters {letters}")
print(f"Digits {digits}")
```

Q14: Write a Python program to check the validity of password input by users. Validation:

- At least 1 letter between [a-z] and 1 letter between [A-Z].

- At least 1 number between [0-9].

- At least 1 character from [$#@].

- Minimum length 6 characters.

- Maximum length 16 characters.

```
import re
```

```python
def valid_password(password):
    # Check length
    if len(password) < 6 or len(password) > 16:
        return "Pass must be btween 6 and 16 charcters"

    # Check for lowercase, uppercase, digit, and special character
    if not any(c.islower()for c in password):
        return "Pass must contain at least one lowercase letter"
    if not any(c.isupper()for c in password):
        return "Pass must contain at least one lowercase letter"
    if not any(c.isdigit()for c in password):
        return "Pass must contain at least one number"

    return "Pass valid"

# Ask user for password
user_password = input("Enter your password: ")

result = valid_password(user_password)
print(result)
```
