PROGRAM - 6

Q6 **Write a Python program that simulates a brute-force attack on a password by trying out all possible character.**

Source Code -

```
import itertools
import string

def bruteforce_attack(password):
    chars = string.printable.strip()
    attempts = 0
    for length in range(1, len(password) + 1):
        for guess in itertools.product(chars, repeat=length):
            attempts += 1
            guess = ''.join(guess)
            if guess == password:
                return (attempts, guess)
    return (attempts, None)

password = input("Input the password to crack: ")
attempts, guess = bruteforce_attack(password)
if guess:
    print(f"Password cracked in {attempts} attempts. The password is {guess}.")
else:
    print(f"Password not cracked after {attempts} attempts.")
```

OUTPUT -

```
>>>
======================= RESTART: C:/python 37/dse6.py =======================
Input the password to crack: pass
Password cracked in 21695135 attempts. The password is pass.
>>>
======================= RESTART: C:/python 37/dse6.py =======================
Input the password to crack: abc#
Password cracked in 9243743 attempts. The password is abc#.
>>>
```