```
# first question
def merge_strings(word1, word2):
    merged = []
    for i in range(max(len(word1), len(word2))):
        if i < len(word1):
            merged.append(word1[i])
        if i < len(word2):
            merged.append(word2[i])
    return ''.join(merged)

word1 = "abc"
word2 = "pqr"
result = merge_strings(word1, word2)
print(result)
```

```
apbqcr
```

```
#second question
def merge_strings(word1, word2):
    merged = []
    for i in range(min(len(word1), len(word2))):
        merged.append(word1[i])
        merged.append(word2[i])

    # Append the remaining part of the longer word
    merged.append(word1[len(word2):])
    merged.append(word2[len(word1):])

    return ''.join(merged)

word1 = "ab"
word2 = "pqrs"
result = merge_strings(word1, word2)
print(result)
```

```
apbqrs
```

```
#third question
def merge_strings(word1, word2):
    merged = []
    for i in range(min(len(word1), len(word2))):
        merged.append(word1[i])
        merged.append(word2[i])

    # Append the remaining part of the longer word
    merged.append(word1[len(word2):])
    merged.append(word2[len(word1):])

    return ''.join(merged)

word1 = "abcd"
word2 = "pq"
result = merge_strings(word1, word2)
print(result)
```

```
apbqcd
```

```
#fourth question
def find_common_substring(str1, str2):
    common = ''.join(sorted(set(str1) & set(str2)))  # Find common characters and sort them
    return common

str1 = "ABAABC"
str2 = " ABC"
result = find_common_substring(str1, str2)
print(result)
```

```
ABC
```

```
 #fifth question
 import math

def gcd_of_strings(str1: str,str2:str)->str:
  if str1+str2 !=str2+str1:
    return""
  gcd_length=math.gcd(len(str1),len(str2))
  return str1[:gcd_length]

str1="ABABAB"
```

```
str2="ABAB"
print(gcd_of_strings(str1,str2))
```

```
AB
```

```
#sixth question
str1="LEET"
str2="CODE"

if str!=str2:
  result=""
  print(result)
```