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Quiz 10

Name and student ID

Write a function `strnchar()` that takes a string and a character as input, and returns the number of occurrences of the character in the string.

```
1  #include <stdio.h>
2
3  int strnchar(char *, char);
4  int main(void)
5  {
6      int result;
7      result = strnchar("sung kyun kwan", 'n');
8      printf("%d", result);
9  }
10
11 int strnchar(char *s, char p)
12 {
13     int ans = 0;
14
15     // s is starting point of string. and s + 1 means the starting point of the next char.
16     while (*s != '\0')
17     {
18         if (*s == p)
19         {
20             ans = ans + 1;
21         }
22         s = s + 1;
23     }
24     return ans;
25 }
```

Quiz 11

Compute the failure function for each of the following patterns.

(a) aaaab

(b) ababaa

(c) abaabaab

(a) a a a a b

-1 0 1 2 -1

(b) a b a b a a

-1 -1 0 1 2 0

(c) a b a a b a a b

-1 -1 0 0 1 2 3 4

Quiz 12

Rewrite pmatch() in slide 12 using for loop instead of while loop.

```
while (i < lens && j < lenp)
{
    if (string[i] == pat[j])
    {
        i++;
        j++;
    }
    else if (j == 0)
    {
        i++;
    }
    else
    {
        j = failure[j - 1] + 1;
    }
}
```

⇒
for

```
for (int k = 0; k < lens; k++)
{
    if (i < lens && j < lenp)
    {
        break;
    }
    if (string[i] == pat[j])
    {
        i++;
        j++;
    }
    else if (j == 0)
    {
        i++;
    }
    else
    {
        j = failure[j - 1] + 1;
    }
}
```