findSubstring

Write a C function that takes two character string arguments, str and substr as input and returns 1 if substr is a substring of str (i.e. if substr is contained in str) and 0 if not. For example, the function will return 1 if substr is "123" and str is "abc123xyz", but it will return 0 if otherwise. Note that for this question you are not allowed to use any string functions from the standard C library. The prototype of the function is given below:

```
int findSubstring(char *str, char *substr);
```

A sample program template is given below to test the function:

```
#include <stdio.h>
#include <string.h>
#define INIT_VALUE 999
int findSubstring(char *str, char *substr);
int main()
{
  char str[40], substr[40], *p;
  int result = INIT_VALUE;

  printf("Enter the string: \n");
  fgets(str, 80, stdin);
  if (p=strchr(str,'\n')) *p = '\0';
  printf("Enter the substring: \n");
  fgets(substr, 80, stdin);
  if (p=strchr(substr,'\n')) *p = '\0';
  result = findSubstring(str, substr);
  if (result == 1)
    printf("findSubstring(): Is a substring\n");
  else if ( result == 0)
    printf("findSubstring(): Not a substring\n");
  else
    printf("findSubstring(): An error\n");
  return 0;
}
int findSubstring(char *str, char *substr)
{
  /* Write your code here */
}
```

Some test input and output sessions are given below:

(1) Test Case 1:
Enter the string:
abcdefgh
Enter the substring:
abc
findSubstring(): Is a substring

(2) Test Case 2:

Enter the string:
abcdefgh
Enter the substring:
bc
findSubstring(): Is a substring

(3) Test Case 3:
Enter the string:
abcdef
Enter the substring:
cdefg
findSubstring(): Not a substring

(4) Test Case 4:
Enter the string:
abcdef
Enter the substring:
xy
findSubstring(): Not a substring