allEvenDigits

Write a function that returns either 1 or 0 according to whether or not all the digits of the positive integer argument number are even. For example, if the input argument is 2468, then the function should return 1; and if the input argument is 1234, then 0 should be returned. Write the function in two versions. The function allEvenDigits1() returns the result to the caller, while allEvenDigits2() passes the result through the pointer parameter, result. The function prototypes are given below:

```
int allEvenDigits1(int num);
void allEvenDigits2(int num, int *result);
```

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

```
#include  <stdio.h>
int allEvenDigits1(int num);
void allEvenDigits2(int num, int *result);
int main()
{
  int number, p=999, result=999;

  printf("Enter a number: \n");
  scanf("%d", &number);
  p = allEvenDigits1(number);
  if (p == 1)
    printf("allEvenDigits1(): yes\n");
  else if (p == 0)
    printf("allEvenDigits1(): no\n");
  else
    printf("allEvenDigits1(): error\n");
  allEvenDigits2(number, &result);
  if (result == 1)
    printf("allEvenDigits2(): yes\n");
  else if (result == 0)
    printf("allEvenDigits2(): no\n");
  else
    printf("allEvenDigits2(): error\n");
  return 0;
}
int allEvenDigits1(int num)
{
  /* Write your code here */
}
void allEvenDigits2(int num, int *result)
{
  /* Write your code here */
}
```

```
int allEvenDigits1(int num)
{
   int remainder;

   while (num!=0)
   {
      remainder = num%10;
      if(remainder%2==1)
      {
         return 0;
      }
      num = num/10;
   }
   return 1;
}
void allEvenDigits2(int num, int *result)
{
   int remainder;

   while (num!=0)
   {
      remainder = num%10;
      if(remainder%2==1)
      {
         *result = 0;
         break;
      }
      else if(remainder%2==0)
      {
         *result = 1;
      }
      num = num/10;
   }
}
```

Some sample input and output sessions are given below:

(1) Test Case 1:

Enter a number:
2468
allEvenDigits1(): yes
allEvenDigits2(): yes

(2) Test Case 2:
Enter a number:
1357
allEvenDigits1(): no
allEvenDigits2(): no

(3) Test Case 3:
Enter a number:
24
allEvenDigits1(): yes
allEvenDigits2(): yes

(4) Test Case 4:
Enter a number:
245
allEvenDigits1(): no
allEvenDigits2(): no