

Fondamenti di Informatica - Compito A

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Exercise (6 points)

Write a recursive function in language C with the following interface:

```
int vocali(char a[], int n);
```

the function should consider those elements in the array `a` with index between 0 and `n`, and should return the number of vowels in that portion of the array. Suppose for simplicity that the array only contains lower-case letters.

Then, show the following program (that invokes the function defined earlier) is executed, by showing the activation records.

```
int f(int *t, char a[], int h)
{
    int i=0;
    while (a[i]!='\0')
    {
        a[i]++;
        *t=i;
        i++;
    }
    h=vocali(a,*t);
    return *t;
}
main()
{
    char s[4]="hal";
    int t=2, n=2, k;
    k=f(&t,s,n);
}
```

Solution

```

int vocali(char a[], int n)
{
    if (n<0)
        return 0;
    if (a[n]=='a' || a[n]=='e' || a[n]=='i' || a[n]=='o' || a[n]=='u')
        return 1+vocali(a,n-1);
    else return vocali(a,n-1);
}

```

