

Complexidades

a)

```
double soma_fracao_potencia(int a, int n)
{
    double s = 0.0;
    for (int i = 1; i <= n; ++i){      n + 1
        s += (double)i / pow(a, i);    n
    }
    return s;
}
```

$$T(n) = (n+1) + n = n+1+n = 2n+1 \rightarrow O(n)$$

b)

```
float soma_produtos_dupla(int n, int m)
{
    float s = 0.0f;
    for (int i = 1; i <= n; ++i){      n + 1
        for (int j = 1; j <= m; ++j){    n x (m + 1)
            s += (float)(i * j);         n x m
        }
    }
    return s;
}
```

$$T(n,m) = (n+1) + (n \cdot (m+1)) + (n \cdot m) = n+1 + nm + n + nm = 2nm + n + 1 \rightarrow O(n \cdot m)$$

c)

```
int eh_primo(int n)
{
    if (n < 2){                          1
        return 0;
    }
    for (int i = 2; i < n; ++i){          n - 1
        if (n % i == 0){                  n - 2
            return 0;
        }
    }
    return 1;
}
```

$$T(n) = 1 + (n-1) + (n-2) = 1 + n - 1 + n - 2 = 2n - 2 \rightarrow O(n)$$