[1.] Given a function $f(x)$, how would you compute its first derivative numerically, that is, using a C code? (I do not want the actual code, but rather a description of the ‘algorithm’ behind it.)

[2.] Given a function $f(x)$, how would you compute its second derivative numerically, that is, using a C code? (I do not want the actual code, but rather a description of the ‘algorithm’ behind it.)

[3.] Write a piece of code which initializes an array

```c
double rho[2000];
```

so that all its values are zero except $\rho[874]=0.3$ and $\rho[1135]=0.7$. 