

Carátula para entrega de prácticas

Facultad de Ingeniería

Laboratorios de docencia

Laboratorio de Computación Salas A y B

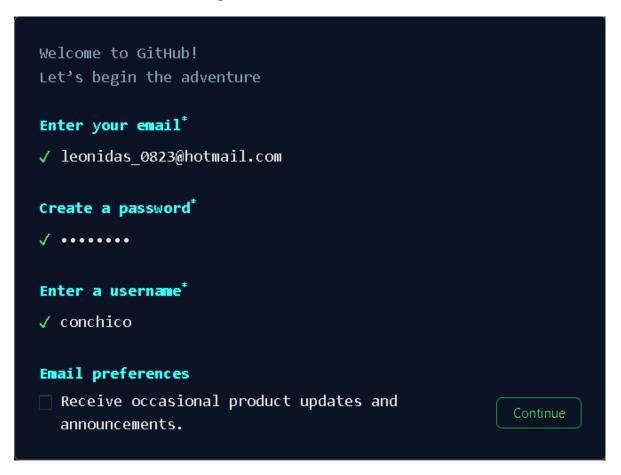
M.I. Heriberto Garcia Ledezma
Fundamentos de programación
21
1
Conchillos Chico Leonardo Gabriel 424047164
2024-2
14 de febrero del 2024
CALIFICACIÓN:

OBJETIVOS

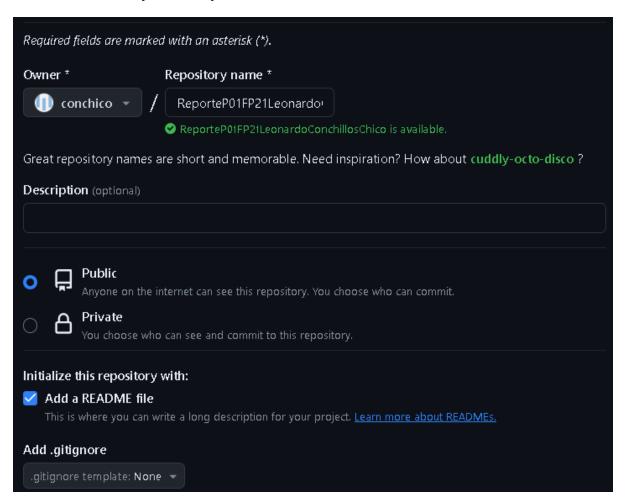
El alumno conocerá y utilizará herramientas de software que ofrecen las Tecnologías de la Información y Comunicación que le permitan realizar actividades y trabajos académicos de forma organizada y profesional a lo largo de la vida escolar, tales como manejo de repositorios de almacenamiento y buscadores con funciones avanzadas.

DESARROLLO

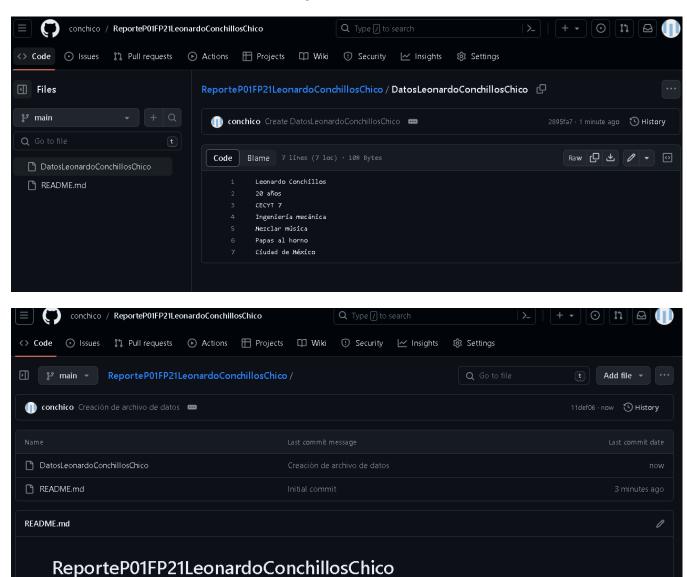
1a. Creación de cuenta en github.com



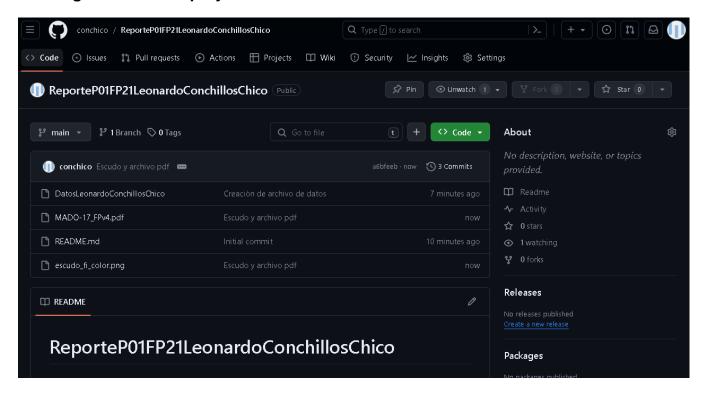
1b. Creación del primer repositorio



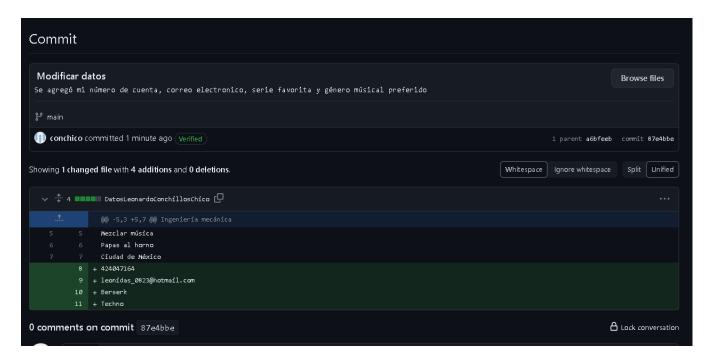
1c. Creación de archivos en nuestro repositorio



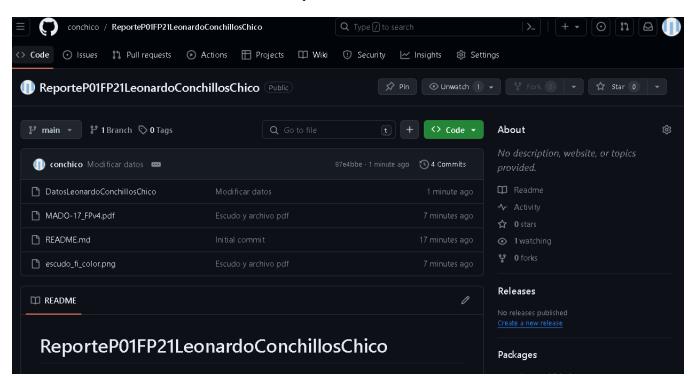
1d. Cargar archivos al proyecto

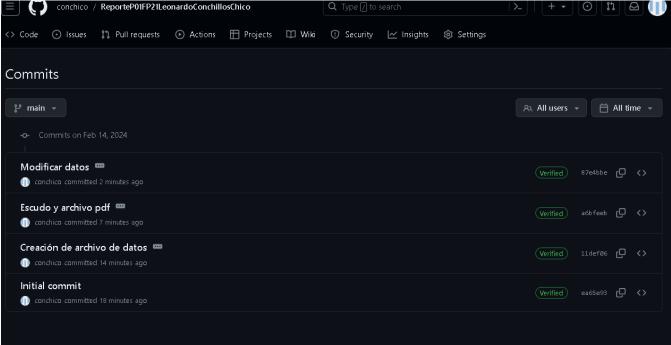


1e. Modificando un archivo



1f. Revisando la historia de nuestro repositorio

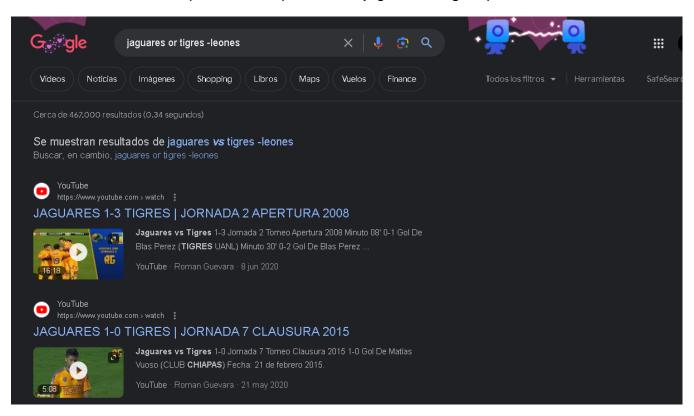




2. Operadores y herramientas del buscador de Google

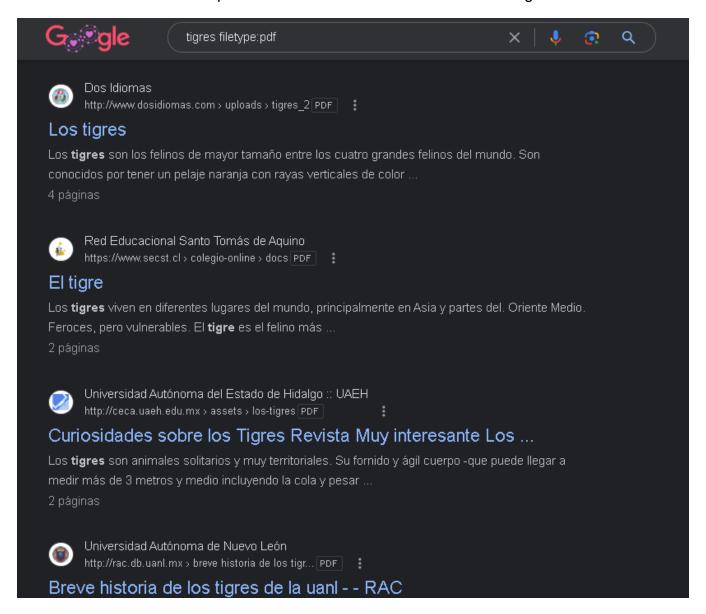
Operador menos y OR

Se buscaron resultados que tuvieran que ver con jaguares o tigres pero sin incluir leones



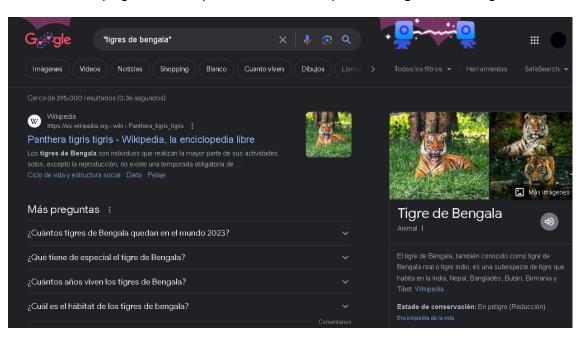
Operador filetype

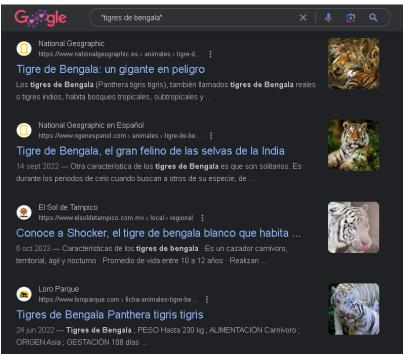
Se buscaron archivos PDF que contuvieran información acerca de los tigres



Operador comillas dobles

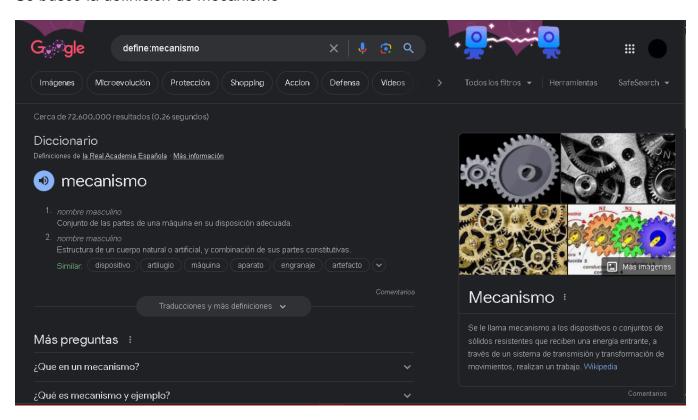
Se buscaron paginas web que contuvieran la palabra "tigres de bengala"



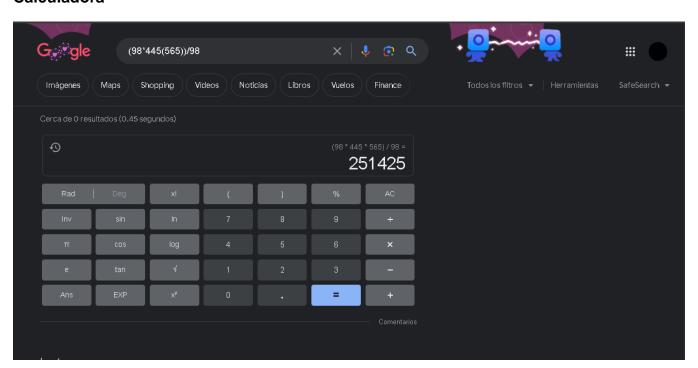


Operador define

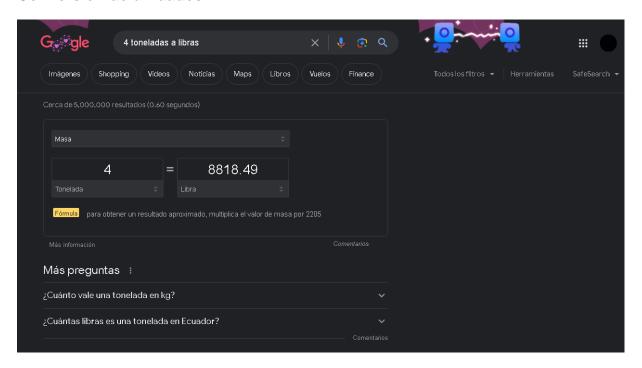
Se buscó la definición de mecanismo



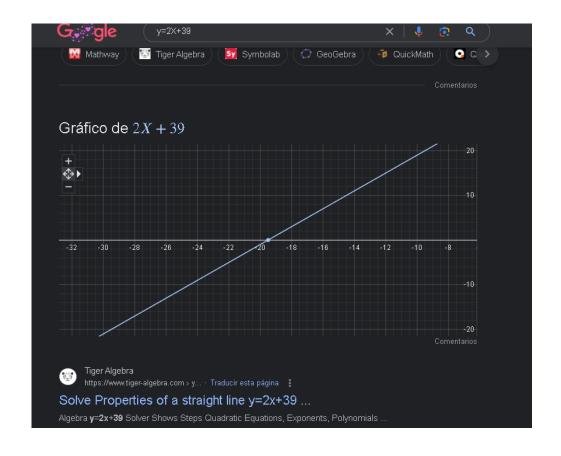
Calculadora



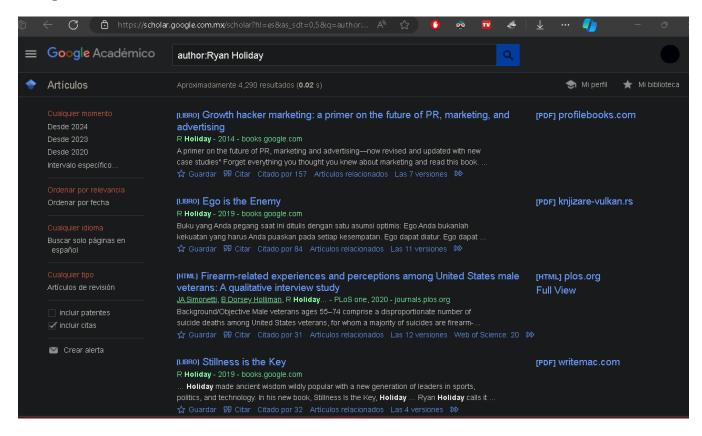
Conversión de unidades



Gráficas de funciones

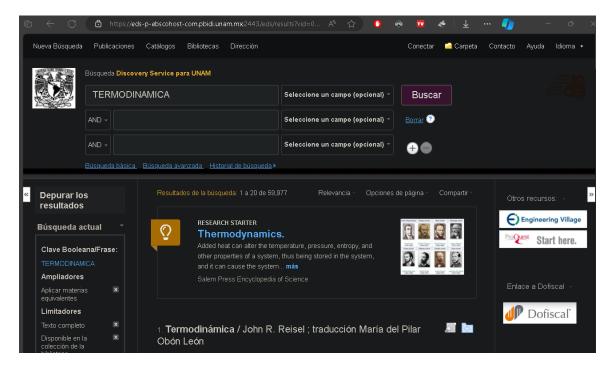


Google scholar

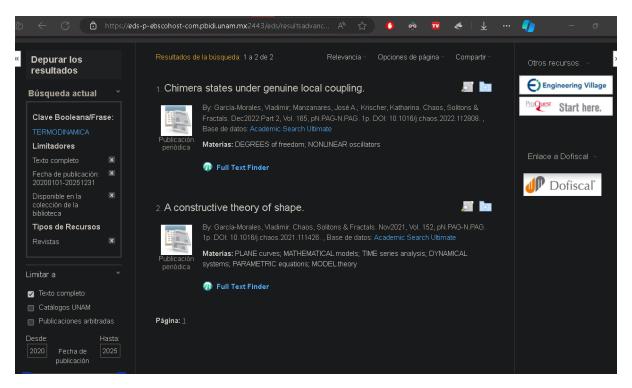


3. Búsqueda de información y documentos en la biblioteca digital de la UNAM

Resultados



Depuración



Articulo obtenido

Chaos, Solitons and Fractals 165 (2022) 112908



Contents lists available at ScienceDirect

Chaos, Solitons and Fractals



Chimera states under genuine local coupling

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ARTICLE INFO

ABSTRACT

Chinera states, important forms of spatistermond self-organization in exsembles of identical oscillators, have been found in a wide variety of systems, presided that the coupling between the oscillators was modical or global. Therefore, it is generally assumed that a locally coupled oscillators president, as described by the complex Gindwarg-London equation (GGE), does not support chinese states. Here we show an alternative modelm that does indeed lead to chinera states in a purely locally-coupled system, namely the instruction of an oscillatory medium, in the present case the GGE, with a bistable internal degree of freedom.

Chimera states in ensembles of identical nonlinear oscillators have been the subject of intense theoretical and experimental research (see [1-5] for excellent reviews). The term chimera was first coined in [6] in relation to previous results by Kuramoto and his coworkers [7, 8]. In a chimera state, an ensemble of identical oscillators splits into two domains, one consisting of synchronous oscillators and the other of incoherent ones [6].

or inconsents ones (o).

Chimeras have been associated with a variety of systems, ranging from biological and neuronal, to ecological and technological [0]. Initially, they were considered a peculiar coexistence of synchronized latitally, they were considered a peculiar consistence of synchronized and desynchronized states, but after one decade chineras states turned out to be an important new paradigm of nonlinear dynamics at the interface of physical and life sciences (4). Chimeras have been dis-cussed to be related to uni-hernipheric sleep of aquatic mammals and migratory birds [10] and electrocorticographic recordings of epileptic szinares [11,12]. Chimera states have also been linked to power grid outages and optomechanics [4].

outages and optomechanics [4].

In the early work, a nonlocal spatial coupling of the oscillators was believed to be an essential feature for the occurrence of chimera states [6–8,13–17]. Meanshills, hoseever, many examples of chimera states are known to emerge under a strictly global coupling [18–21]. This is in contrast to the case of 'true' or 'gentaine' nearest-neighbor, rins is a contrast to the class of varies or genuine moment-neighbor, Le, local or diffusive, coupling, where chimenes have not been reported yet. With 'true' we indicate here that there is no time-scale separa-tion because it is not possible to adiabatically eliminate that diffusive degrees of freedom, which constitutes as effective nonlocal spatial coupling [7]. Formation of chimera states under local coupling with ration in the dynamics was discussed by Laing in [22].

In this article we describe a new, robust mechanism for the emergence of chimera states in a spatially-extended system. Contrarily to all previous works, this mechanism requires no special form of spatial all pervious works, this mechanism requires no special form of spatial coupling, i.e., it works for strictly local coupling as well and it is thus not linked to any specific interaction function (or, in a wider sense, network topology). Rather, it assumes a local dynamics that requires three variables, the third variable introducing a bistability which allows the consistence of qualitatively different oscillatory be-haviors, among them synchrony and turbulence. The novel mechanism here reported also works as a general model for consisting dynamical restines. Not these scale sensestion is rowested in the surely local coupling restines. regimes. No-time scale separation is present in the purely local coupling of the identical oscillators. We call this a genuine local coupling and we demonstrate below the emergence of chimeras under these conditions. Key for the formation of these chimera states are the nonlinearity and the control parameters that set the oscillatory regime close to a supercritical pitchfork-Hopf bifurcation [23]. To observe this bifur-cation, in addition to some base oscillator, that needs at least two variables, a third variable is needed that modifies the local properties of the oscillator. Thus, in chemical systems, for example, a minimum of three chemical species is needed (in electrochemical systems, since the double layer potential is also a dynamical variable [24], a minimum of two chemical species would be needed).

The outline of this article is as follows. In Section 2 we present our model and discuss its most prominent features. In Section 3, the uniform solution is described and its stability in parameter plane is established. In Section 4 we show numerical simulations of the model that confirm the intuitions conveyed in Section 3. In Section 5 we establish another important result: a criterion to find chimera states in the parameter plane in our model. Finally, in Section 6 we describe how

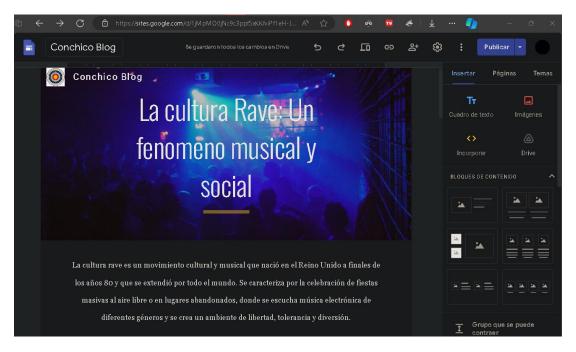
/10.1016/j.chaos.2022.1128

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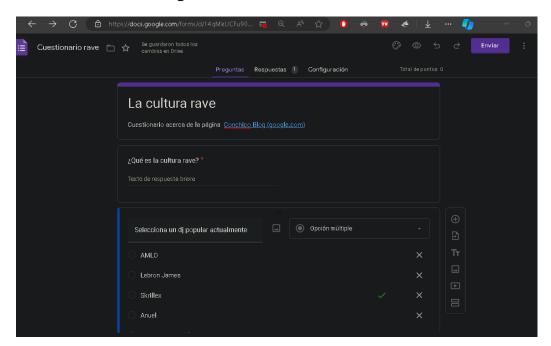
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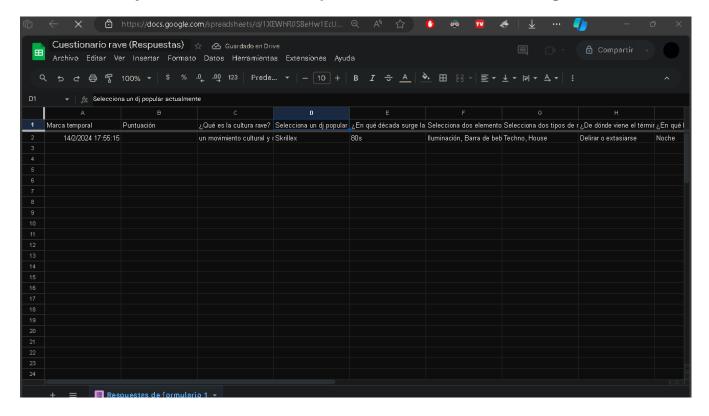
4. Creación de página web, formulario y hoja de calculo en Google Creación de página web en Google sites



Creación de formulario en Google Forms



Creación de hoja de calculo con las respuestas del formulario en Google Docs



Link del sitio web creado

https://sites.google.com/view/fp21-242-lgcc

CONCLUSIONES

La práctica realizada fue una experiencia interesante para el alumno, ya que le permitió conocer y utilizar herramientas de software que facilitan el desarrollo de actividades y trabajos académicos de forma organizada y profesional. El alumno aprendió a usar repositorios de almacenamiento, también aprendió a usar buscadores con funciones avanzadas como Google Scholar y el buscador de la biblioteca digital de la UNAM, que le permiten encontrar información relevante y confiable para los proyectos de investigación. Estas herramientas son fundamentales para aprovechar completamente las Tecnologías de la Información y Comunicación, que son grandes herramientas para la escuela y el trabajo.