

Busta A

Quesito 1

Si deve attivare un nuovo laboratorio strumentale a servizio della ricerca destinato alla creazione di prototipi interattivi con 6 postazioni di lavoro. Si indichino le attrezzature da comprare e i software da installare per permettere agli utilizzatori del laboratorio di sviluppare i prototipi destinati alla valutazione dell'usabilità degli artefatti o all'acquisizione di dati ambientale tramite sensori.

Date le componenti presenti nella busta, indicare un esercizio da fare all'interno del laboratorio.

Quesito 2

Cos'è e a cosa serve il servizio Pago PA?

L'ORGANIZZAZIONE MULTICAMPUS DELL'ATENEO

A

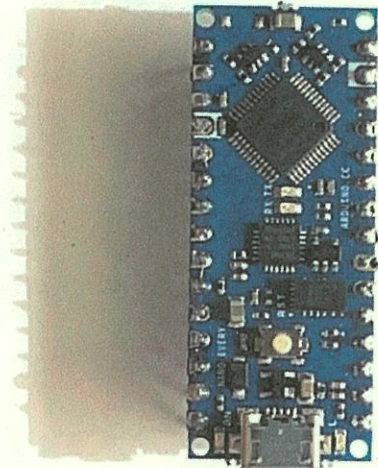
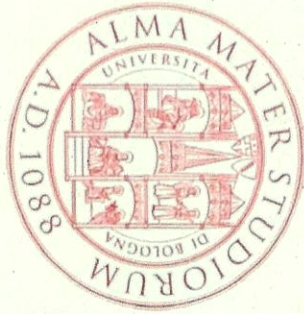
Arduino

Arduino is an open-source hardware and software company, project, and user community that designs and manufactures single-board microcontrollers and microcontroller kits for building digital devices.

Arduino board designs use a variety of microprocessors and controllers. The boards are equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards ('shields') or breadboards (for prototyping) and other circuits. The boards feature serial communications interfaces, including Universal Serial Bus (USB) on some models, which are also used for loading programs. The microcontrollers can be programmed using the C and C++ programming languages, using a standard API which is also known as the Arduino language, inspired by the Processing language and used with a modified version of the Processing IDE.

The Arduino project began in 2005 as a tool for students at the Interaction Design Institute Ivrea, Italy, aiming to provide a low-cost and easy way for novices and professionals to create devices that interact with their environment using sensors and actuators. Common examples of such devices intended for beginner hobbyists include simple robots, thermostats and motion detectors.

(From Wikipedia, 08/04/2022)



2

Busta B

Quesito 1

Uno studente o una studentessa del dottorato del dipartimento richiede assistenza per sviluppare un esperimento per tracciare il movimento del corpo umano all'interno di un unico spazio architettonico di un edificio pubblico con un campione di persone selezionato. Indicare con quali tipologie di attrezzature hardware e software si potrebbe tracciare il movimento spaziale e la postura del corpo umano e quali soluzioni si potrebbero utilizzare per l'elaborazione e la visualizzazione dei dati ottenuti.

Date le componenti elettroniche presenti nella busta, indicare un esercizio propedeutico all'esperimento.

Quesito 2

Cos'è la firma digitale? A cosa serve e come si usa la firma digitale?

B

**I PRINCIPI COSTITUTIVI E DI INDIRIZZO DELLO
STATUTO DELL'ATENEO**

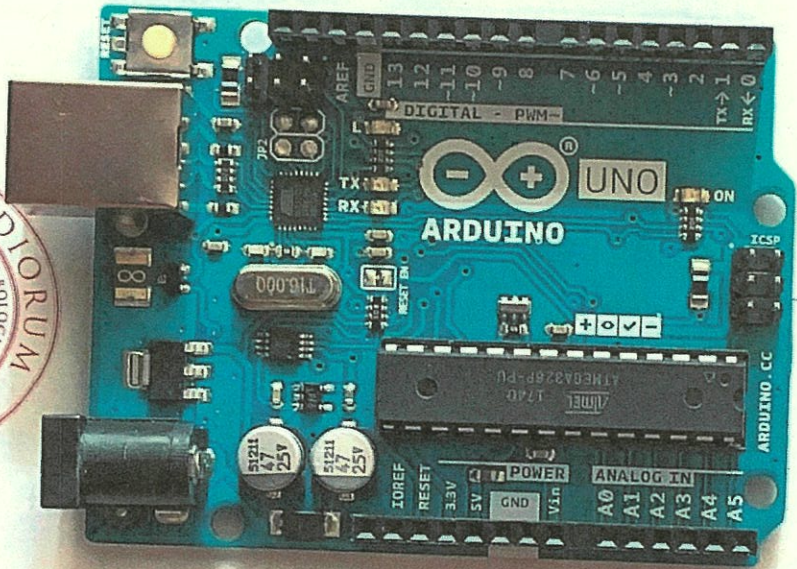
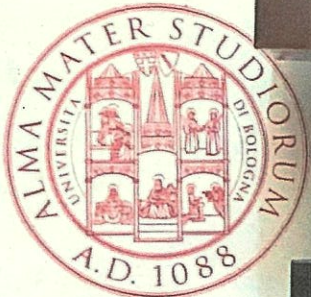
Unity

Unity is a cross-platform game engine developed by Unity Technologies, first announced and released in June 2005 at Apple Inc.'s Worldwide Developers Conference as a Mac OS X-exclusive game engine. The engine has since been gradually extended to support a variety of desktop, mobile, console and virtual reality platforms. It is particularly popular for iOS and Android mobile game development and used for games such as Pokémon Go, Monument Valley, Call of Duty: Mobile, Beat Saber and Cuphead. It is considered easy to use for beginner developers and is popular for indie game development.

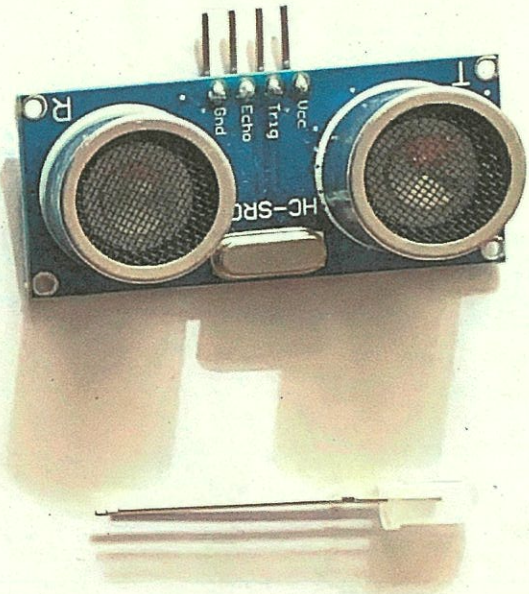
The engine can be used to create three-dimensional (3D) and two-dimensional (2D) games, as well as interactive simulations and other experiences. The engine has been adopted by industries outside video gaming, such as film, automotive, architecture, engineering, construction, and the United States Armed Forces.

The Unity game engine launched in 2005, aiming to "democratize" game development by making it accessible to more developers. The next year, Unity was named runner-up in the Best Use of Mac OS X Graphics category in Apple Inc.'s Apple Design Awards. Unity was initially released for Mac OS X, later adding support for Microsoft Windows and Web browsers.

(From Wikipedia, 08/04/2022)



A



B

Busta C

Quesito 1

Una figura del personale del dipartimento richiede assistenza per sviluppare un esperimento per comprendere come gli stimoli tattili, applicati sulla superficie del corpo umano, possano essere rilevanti per la progettazione di dispositivi wearable. Indicare quali tipologie di attrezzature hardware e software potrebbero essere utili per sviluppare dei prototipi funzionanti per condurre un'analisi sperimentale con un campione definito di persone e quali dati sarebbe opportuno raccogliere.

Date le componenti elettroniche presenti nella busta indicare un esercizio propedeutico all'esperimento.

Quesito 2

Cos'è lo SPID?

I DIPARTIMENTI : ORGANIZZAZIONE E ORGANI

C

MATLAB

MATLAB (an abbreviation of "MATrix LABoratory") is a proprietary multi-paradigm programming language and numeric computing environment developed by MathWorks. MATLAB allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages.

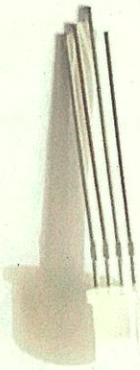
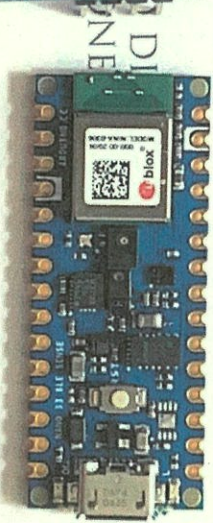
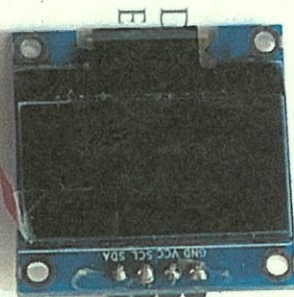
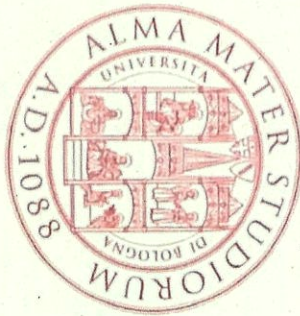
Although MATLAB is intended primarily for numeric computing, an optional toolbox uses the MuPAD symbolic engine allowing access to symbolic computing abilities. An additional package, Simulink, adds graphical multi-domain simulation and model-based design for dynamic and embedded systems.

As of 2020, MATLAB has more than 4 million users worldwide. They come from various backgrounds of engineering, science, and economics.

MATLAB was invented by mathematician and computer programmer Cleve Moler. The idea for MATLAB was based on his 1960s PhD thesis. Moler became a math professor at the University of New Mexico and started developing MATLAB for his students as a hobby. He developed MATLAB's initial linear algebra programming in 1967 with his one-time thesis advisor, George Forsythe. This was followed by Fortran code for linear equations in 1971.

In the beginning (before version 1.0) MATLAB "was not a programming language; it was a simple interactive matrix calculator. There were no programs, no toolboxes, no graphics. And no ODEs or FFTs."

C



Busta D

Quesito 1

Uno studente o una studentessa del dottorato del dipartimento richiede assistenza per sviluppare un esperimento per tracciare il movimento delle mani e del volto di una persona durante un test di usabilità con un campione di individui selezionato. Indicare con quali tipologie di attrezzature hardware e software si potrebbe tracciare il movimento e quali soluzioni si potrebbero utilizzare per l'elaborazione e la visualizzazione dei dati ottenuti.

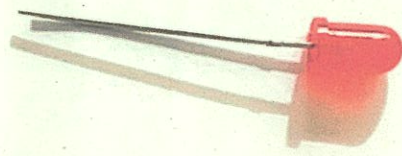
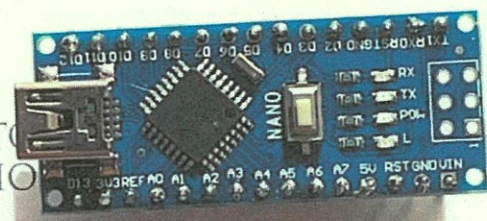
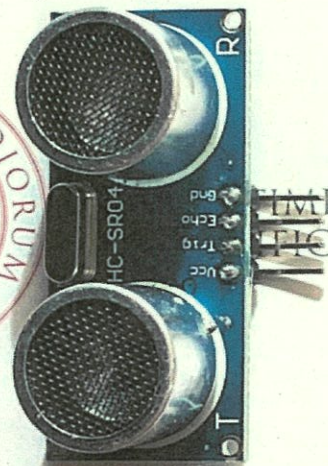
Date le componenti elettroniche presenti nella busta, indicare un esercizio propedeutico all'esperimento.

Quesito 2

Cos'è il domicilio digitale?

GLI ORGANI DI ATENEIO E LE LORO FUNZIONI

D



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