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Mohan Nagar, Ghaziabad
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Tech innovations at FIFA-2018 World Cup

Whether you call it football or soccer, the thrills and excitement of the World Cup unite fans around the world. And this year, the tech in play at the 2018 FIFA World Cup is nearly as astonishing as the athletes themselves. Technology can create controversy in a sport that is already loaded with passionate fans, and this year, a new video assistant referee is among the most loved and hated of the new tech.

"One of the benefits of technology at these large-scale or global events is that it can introduce ideas or innovation that otherwise might be missed by seasonal leagues. The budgets for global events are large and the stakes are even higher," said Mike Guiffre, senior vice president of SuiteHop.

1. Adidas Official Match Soccer Ball

Adidas has been making the official soccer ball for the World Cup since 1970. This year, in a nod to the 2014 Brazuca Official Match Ball, it has created the Adidas Telstar Mechta for the knockout rounds of the tournament. The Telstar 18 was used in the earlier group stage of the World Cup. The Telstar 18 is a reimagining of the first Adidas FIFA World Cup Official Match Ball, used at the 1970 tournament in Mexico. Both the Telstar 18 and Mechta contain embedded NFC chips to communicate with smartphones.

2. Electronic Performance and Tracking Systems (EPTS)

The Electronic Performance and Tracking Systems is a tablet-based system where each team can share information with its coaches in real time. Player stats and video footage are available. Each team has three tablets. One is for an analyst in the stands, another for an analyst on the bench, and a third for the medical team. Optical tracking cameras are used to monitor the players and the ball and provide feedback. It works with camera-based systems and wearable technology.

3. Video Assistant Referee (VAR)

This is the first year the World Cup has used a new kind of video technology, called the Video Assistant Referee, to assist in officiating. The idea is that it catches errors which weren't caught earlier. The VAR team supports the referees from a centralized video operations room at the international broadcast center in Moscow, according to a FIFA video. One video assistant referee, three assistants and four replay operators make up the group, which has access to all 33 camera feeds covering the matches, plus exclusive access to two special offside cameras. Two cameras are turned on the refs themselves, so their decision process will be public, according to CNET.

The tech is only used in situations where a call may have changed the result of a match. If a "clear and obvious error" has been made, the team communicates with the on-field refs and they can stop play at any time to consult with the VAR team.

4. 4K Ultra High Definition Video and VR

This is the year for 4K Ultra High Definition technology at World Cup. There were 4K trials at the World Cup in Brazil in 2014, but this is the first time it's been widespread and available to viewers with compatible TVs. In the UK, however, the matches have only been available online via the BBC iPlayer. The BBC also has a virtual reality feed that fans access through the BBC Sport VR app.

"Most notably, with all 64 matches produced in UHD, 4K and HDR has taken a major leap forward, with broadcasters around the world, including the BBC, DirecTV, Sky Deutschland, Swisscom and BeIn showing matches in 4K via cable, satellite and IPTV," said George Bevir, editor of IBC365. "AI, via IBM's Watson, has been used to process requests for footage and there has been more dedicated content for social media than ever before. And it's notable that virtual reality and 360-degree content has been embraced by FIFA. There appears to be a reasonably healthy appetite to experience immersive content; midway through the competition, the BBC announced that its BBC Sport VR—FIFA World Cup Russia 2018 app had been downloaded a total of 325,000 times," Bevir said.

Bevir said that while no one expects VR to replace regular viewing, it does provide broadcasters and advertisers with the opportunity to create additional content for large events that they know will attract big audiences.

5. Goal-line technology (GLT)

Figuring out whether it's a goal or a near-miss is an important part of a ref's job. Goal-line technology debuted in the 2014 World Cup in Brazil and it's still an important part of the tech being used this year in Russia. With GLT, 14 cameras capture up to 500 frames per second and send the image to an image processing system. The 3D coordinates of the ball are monitored and when the entire ball crosses the goal line, the camera captures it and sends a signal to the referee's watch. GoalControl is again providing the technology, as it did in Brazil.

Python and its Features

What is Python?
Python is an Object Oriented, interactive, interrupted and high-level programming language. It's like Perl, the Python source code available under the GNU General Public License.
It is designed to be highly readable and let's discuss about the syntactical constructions compared with other languages.

Object Oriented - Python supports Object Oriented Programming that encapsulates code within objects

Interpreted - Python is executed at runtime interpreter. We must compile the program before executing the application. It's same as PERL and PHP.

Interactive - Python prompt can communicate with interpreter with your application or program.

Python features
There are many features in Python programming. It has keywords, structures and defined syntax in Python code.
The features are :
1. Easy to learn
2. Easy to read
3. Broad Standard Library
4. East to Maintain
5. Portable
6. Extendable
7. Broad Standard Library
8. GUI Programming

Environment Setup
Here, we will discuss a step by step process to configure Python environment setup.
Step 1
- Go to *https://www.python.org* site to install the software.
- Click on Download menu and select the "Python 3.6.5" version. You can see that in the below screenshot.
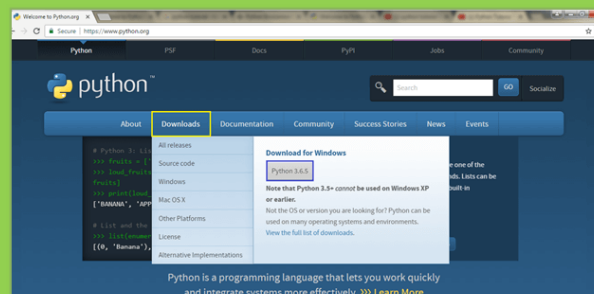
Step 2

Click on the "Download Python 3.6.5" button. Then it will generate the .exe (executable) file on the browser window.

Step 3

- Click the .exe file. You will get into the Python installation page
- So, you can directly hit the "Install Now" or if you want to customize the changes go with "Customization installation"
- Here, I selected "Install Now" option - find the point #1
- Screen #2 - Setup is processing.
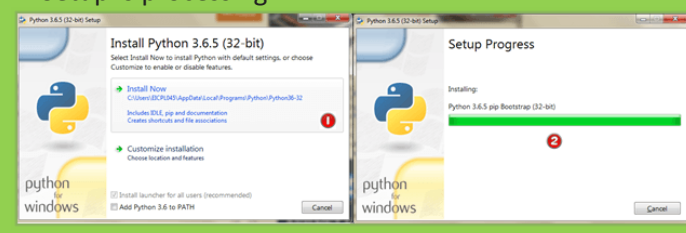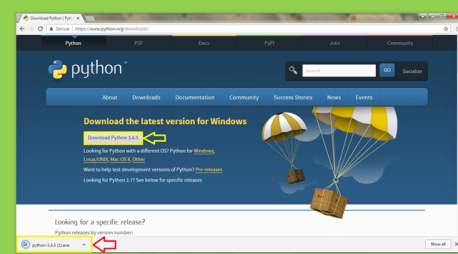
- Screen #3 - The Setup has been completed
- Screen #4 - You can see the Python command line and module documents on "Start - All Programs".
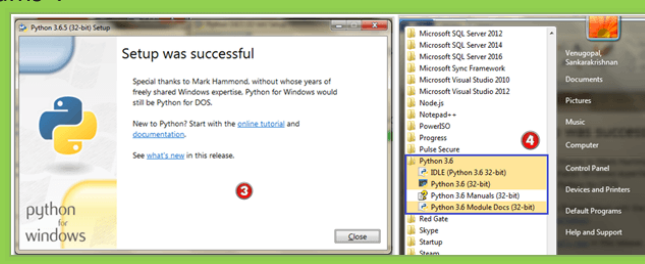
First application using Python

Go to Start - All Programs - Click on "Python 3.6". You will see the comment prompt on the window.

Here, we are going to display the plain text on command prompt

Syntax

Print - It is a keyword used to display the text on window/prompt

And you enter the text in between open **(**"and close "**)**"

Example

Print ("Hello World")

Enter the text on command prompt and hit enter. You can see result on the prompt.

Find the screenshot.
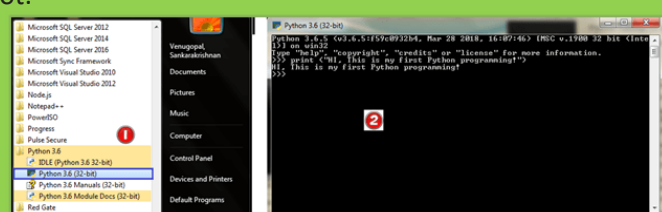
Error Message
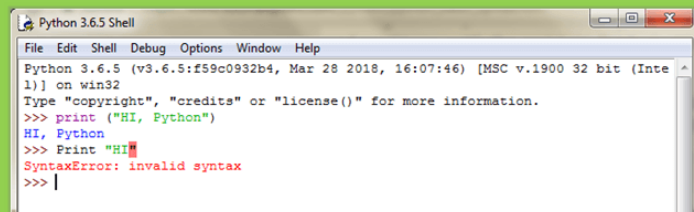
If you have not followed the syntax, you will get an error message on command prompt.

Find the above screenshot, we have forgotten to enter the open (and closing) brace.

Make sure you are following the syntax.

Artificial Embryos

In a breakthrough that redefines how life can be created, embryologists working at the University of Cambridge in the UK have grown realistic-looking mouse embryos using only stem cells. No egg. No sperm. Just cells plucked from another embryo.

Artificial Embryos

- Breakthrough Without using eggs or sperm cells, researchers have made embryo-like structures from stem cells alone, providing a whole new route to creating life.
- Why It Matters Artificial embryos will make it easier for researchers to study the mysterious beginnings of a human life, but they're stoking new bioethical debates.
- Key Players University of Cambridge; University of Michigan; Rockefeller University
- Availability Now

The researchers placed the cells carefully in a three-dimensional scaffold and watched, fascinated, as they started communicating and lining up into the distinctive bullet shape of a mouse embryo several days old.

"We know that stem cells are magical in their powerful potential of what they can do. We did not realize they could self-organize so beautifully or perfectly," Magdelena Zernicka-Goetz, who headed the team, told an interviewer at the time.

Zernicka-Goetz says her "synthetic" embryos probably couldn't have grown into mice. Nonetheless, they're a hint that soon we could have mammals born without an egg at all. That isn't Zernicka-Goetz's goal. She wants to study how the cells of an early embryo begin taking on their specialized roles. The next step, she says, is to make an artificial embryo out of human stem cells, work that's being pursued at the University of Michigan and Rockefeller University.

Synthetic human embryos would be a boon to scientists, letting them tease apart events early in development. And since such embryos start with easily manipulated stem cells, labs will be able to employ a full range of tools, such as gene editing, to investigate them as they grow.

Artificial embryos, however, pose ethical questions. What if they turn out to be indistinguishable from real embryos? How long can they be grown in the lab before they feel pain? We need to address those questions before the science races ahead much further, bioethicists say. —*Antonio Regalado*

**Priya Singh
Student Editor, VIBRANCE**

Workshop on Internet of Things (IOT) for MCA & BCA Students

Department of I.T. organized one day workshop on "Internet of Things" for the students of MCA & BCA on 18th   April, 2018. Mr. Ashish Bhargava, Senior Manager Consulting, UniCoverage Technologies was the speaker of the workshop.

While welcoming the guest, Director-IT, Dr. Sunil Kr. Pandey said that Internet of Things (IoT) is an ecosystem of connected physical objects that are accessible through the internet. The 'thing' in IoT could be a person with a heart monitor or an automobile with built-in-sensors, i.e. objects that have been assigned an IP address and have the ability to collect and transfer data over a network without manual assistance or intervention. The embedded technology in the objects helps them to interact with internal states or the external environment, which in turn affects the decisions taken. He said that students always have doubts about the IOT and its applications, these type of workshops help students to upgrade their knowledge about the current technologies and which will definitely help them in their placements. MCA-Chairperson, Prof. Puja Dhar, Coordinator-MCA, Prof. Smita Kansal and other Faculty Members of Department of I.T were also present in this workshop.

While addressing the students, Mr. Ashish said that IoT allows the devices to communicate with each other, access information om the internet, store and retrieve data , and interact with user, creating smart, pervasive and always-connected environments.
The objective of this workshop was to help the students in setting up an IoT Lab and be aware about this new technology. He said that ConnectiFY is a development board which allows to carry many experiments and its advance features allows to take data to the Internet using in-build features of using Ethernet, Bluetooth, XeeBee.

Mr. Ashish said that the practical teaching system design should base on of cultivating students' engineering ability and accomplishment, especially, the ability to solve the problem in the Internet of things engineering. At the end of the session students were given the practical demonstration of various small applications including the basic knowledge about passive electronic components, basic circuit design, Logic family and theory, Serial and parallel interfaces and some basic knowledge about Sensors/ Actuators. Mr. Ashish and his team also demonstrated the basic working of microcontrollers, use of general ICs. He said that student should have the basic knowledge of C and Python.

Students were very happy while attending this Practical based workshop. This was a new learning for the students of MCA and BCA.

Awards & Accolades received by I.T.S,Ghaziabad

Award for Best Private Undergraduate College in India

I.T.S ,Mohan Nagar, Ghaziabad- UG Campus is awarded with "Best Private Undergraduate College in India - 2018" Award for Outstanding Contribution to Education and Skill" by CEGR (Centre for Education Growth and Research) on 18th April, 2018 in its 4th Higher Education Summit organized at Le Meridian, New Delhi.

Award for Best Institution Nurturing Entrepreneurship and Employability

On 17th May, 2018 I.T.S, Mohan Nagar, Ghaziabad has been recognized and awarded with "Best Institution Nurturing Entrepreneurship and Employability" in a glittering ceremonial event of NATIONAL INNOVATION AWARDS, 2018 at Hotel Taj Palace, New Delhi .

Award for Top-B Schools by elets- Digital Learning Ranking

Certificate of Recognition by elets-Digital Learning Ranking : Top Private B-Schools is awarded to I.T.S, Mohan Nagar, Ghaziabad on 23rd May, 2018.

I.T.S National IT Convention-2018

I.T.S National IT Convention – 2018 was organized by Department of IT at I.T.S, Mohan Nagar, Ghaziabad in association with CSI Student Branch at I.T.S on Saturday, 21st April, 2018.

The event was formally inaugurated by Shri Arpit Chadha, Vice Chairman - I.T.S- The Education Group, Chief Guest Dr. A.K. Nayak - National Secretary of CSI, Dr. Sunil Kr Pandey – CSI State Student Coordinator – UP & Director (IT) at I.T.S, Ghaziabad, Key Note Speakers - Mr. Ravinder Arora, CISO, IRIS Software and Mr. Vineet Love, Associate Director - BDO, Special Guest Mr. Pratyush Chaudhary - Actor & Model, Shri Surinder Sood – Director (PR), I.T.S - The Education Group, Event Coordinators Dr. Umang, Prof. Saurabh Saxena, Prof. Puja Dhar, Prof. Smita Kansal – CSI Student Branch Coordinator at I.T.S, Ghaziabad and Prof. Varun Arora by lamp lighting before Goddess Sarasvati.

I.T.S National IT Convention organized by Dept. of IT concluded on a grand note with participation of 88 Colleges, about 1000+ participants in 14 different activities organized under 04 Categories (all were to be conducted in a single day) from far off places including - Varanasi, Jaunpur, Kanpur, Lucknow, Moradabad, Meerut, Muzzafarnagar, Saharanpur, Bijnor, Baghpat, Shamli, Aligarh, Delhi, Noida/ Gr. Noida, Ghaziabad, Hapur, Bulandshahr, Faridabad, Gurugram etc. with full packed Chanakya Auditorium of the Institute. The activities include - Technical (C Programming, Java Programming, IT Quiz, Web Designing, Project Presentation), Cultural (Solo Song, Duet dance, Solo Dance), Literary (Paper Presentation, Extempore, Poster Presentation) and Fine Arts (Rangoli, Face Painting, Movie Making).

Inaugural Session commenced with welcome note of Event Coordinator Prof Puja Dhar followed by motivational address of Director PR, I.T.S - The Education Group, Sh. Surinder Sood who emphasized on the need of being focused on improving and skilling with technical as well as communication skills.

Vice Chairman, I.T.S- The Education Group, Shri Arpit Chadha expressed his happiness on huge participation from various institutes across the states and welcomed the guests. He said that this event will help students not only to compete with the sportsman spirit in a healthy competitive environment and showcase their learning in various event but will also provide an opportunity to meet and understand what others are doing.

While welcoming the guests, Dr. Sunil Kr Pandey, Director – IT & CSI State Student Coordinator of UP set the tone of event by giving warm welcome address to all Chief Guest, key note speakers and Special of this event and addressed the gathering. Dr. Pandey expressed his confidence that various activities shall witness high class of deliberations and shall open the new directions to the participants. He has also highlighted that this event is in the series of various national/international activities in association with Computer Society of India organized by Department of IT, I.T.S Ghaziabad. Earlier, Event Coordinator, Dr. Umang presented a brief on objectives and structure of the event.

In his address, Dr. A.K. Nayak, Chief Guest of the Convention appreciated the efforts of I.T.S ,Ghaziabad in providing such a platform to the students to demonstrate & showcase their talent on a large forum in a competitive environment. Dr. Nayak greeted all the participants and motivated them and said that knowledge needs to be transmitted in order to make it more useful and meaning. In his address, He has also congratulated and give best wishes to I.T.S for organizing such a wonderful event along with huge participation.

Mr Ravinder Arora, Keynote Speaker emphasized on serious engagement with Technology and understand as how young minds can contributed to take it to masses.

Mr. Vineet Love, Key Note Speaker touched upon evolution of technologies and related applications and also motivated delegate students to always participants in such activities which will help them to improve their communication, technical and research skills.

Special Guest Mr. Pratyush Chaudhary suggested participants to set the goals of life which will be helpful for their bright future.

Inaugural session was concluded with overwhelming cultural performance by MCA Students followed by vote of thanks of Event Coordinator Prof. Smita Kansal.

The event concluded with the Prize distribution ceremony in the evening in which Chief Guests Dr. A.K. Nayak and Director (IT) & CSI Student Coordinator of UP gave away the Cash Prizes, Certificates and Trophies to the winners of different activities. On this occasion Prof. Nancy Sharma, Vice Principal UG, Dr. Umang, Prof. Puja Dhar, Prof. Smita Kansal and Prof. Varun Arora (Event Co-Convener(s)), faculty members, students from different courses of the Institute and also outside the Institute were also present.

Dr. Sunil Kr Pandey, Director-IT, I.T.S, Mohan Nagar received Next CSO Award

Dr. Sunil Kr Pandey, Director (IT), I.T.S, Mohan Nagar Ghaziabad received prestigious NextCSO Award of IT Industry on 25th May, 2018 in the annual event of CSO Forum of India and leading Media House 9Dot9. The event was fully supported by Google, CISCO, Microsoft, Dimension Data and other leading IT Companies. The two days event was organized at Hotel Crown Plaza, Greater Noida in which 14 Future CSO's were declared as winners and awarded with Trophies & Certificates. Dr. Pandey was only representation from Academia. Other winners included – Mr. Satish Asnani (DGM – BHEL), Mr. Subhanil Banerjee (Sr. Manager – IT Infra & Security, ABP), Mr. Kashan Kendre (Sr. Manager – Reliance Industries), Mr. Aditya Khullar (Tech Lead – One97 Communications), Mr. Sanjeev Lamba (Head IT GRC – Uno Minda Group), Ms. Shweta Nair (Sr. Manager – Capagemini), Mr. Ashish Narkar (Global Head of IT Security – TCS), Mr. Vinod Negi (Sr. Chief Manager of Info Security & Risk – Dewan Housing Finance Corp.), Mr. Vaibhav Pendurkar (Head – IS, FIS Global), Mr. Venkateshan Raman (ISM – SBI Life Insurance), Mr. Sandeep Sanyasi (Consultant – Cyber Security – Dell), Mr. Rupen Shah (AGM-IT, Arohan Financial Services) and Mr. Gurvinder Singh (Manager – Engineering, DXC Technology).

Dr. Pandey received the Award and Recognition from Mr. Vishak Raman (Head, Security Business, CISCO – India & SAARC) and Mr. Murtaza Bhatia, Practice Head – Data Centre & Security, Dimention Data. On this occasion leading IT Professionals from Global companies including Google, Microsoft, Dimension data and others. Apart from receiving award, it was a great opportunity to meet, interact and exchange our views on the issues related to Cyber Security with Global Cyber Security Leaders and Experts of global companies.

Department of IT proudly shares the University result of its MCA-IV Semester (2016-18) Students

Institute of Technology & Science
Mohan Nagar, Ghaziabad
www.its.edu.in

CONGRATULATIONS! MCA 2016-18 Batch
For Excellent Result in University Examination

- 100% Result of MCA
- Highest marks secured 87.6%
- 51 students with honours (>=75%)
- Among Top-3 institutes in the region
- 18 students with more than 80%
- 96 students with 1st Division

MUSHKAN ABBASI 87.60% | ANKITA 85.30% | NITISH 85.03% | RICHI GUPTA 84.78% | GUNJAN SHARMA 84.75%

SHIVANI 84.38% | ANAMIKA TYAGI 84.28% | AKANKSHA VARSHNEY 83.10% | RASHI 82.80% | VAIDEHI CHHETRI 82.28%

Students of MCA(2016-18) have shown excellent performance in University Result announced recently by AKTU, Lucknow. Director-IT, Dr. Sunil Kr. Pandey along with Chairperson-MCA, Prof. Puja Dhar, Coordinator-MCA, Prof. Smita Kansal and other Faculty members of the Department congratulate all the students of MCA(2016-2018) for their excellent performance in MCA Results He said that this is the joint efforts of students & Faculty Team of IT Department @I.T.S, Mohan Nagar, Ghaziabad for excellent results.

The Highest marks of 87.65% is secured by Ms. Muskan Abbasi. 18 students have secured more than 80%marks. 33 students have secured 75% marks. 25 students have secured 70% marks. While as lowest percentage was 64.6%. All the students have passed with an average marks of 70+%. Department of I.T once again congratulate all the Students of MCA(2016-18) for bringing laurels to the institute.

Department of I.T Announces Commencement of Placement Drive for MCA(2017-19) Batch Students !

Department of I.T, I.T.S, Mohan Nagar, Ghaziabad happily announce the selection of 5 Students of MCA Batch (2017-2019) and commencement of Placement Drives for MCA 2017-2019 Batch on Saturday, 26th May, 2018 at I.T.S- Mohan Nagar, Ghaziabad .

In addition to this 9 MCA (2017-19) students are also selected to work on live Industry Project during Summer Vacations.

Department of I.T. Congratulates all the selected students.

Heartiest Congratulations MCA (2017-19 Batch) !
CRC, Dept. of IT proudly shares & Congratulates on Selection of

AMIT KASHYAP | ANSHUL GUPTA | MANISH KUMAR

VINEET MOSES DAS | SHWETA CHAUDHARY | GAURAV KUMAR | SHRADDHA GUPTA

In

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Faculty Participation in External Events

Date	Faculty	Events
26th -01st July,2018	Prof. K.P.Singh	Attended Faculty Development Programme on "Data Analytics with R" organized by Krishna Engineering College ,Mohan Nagar, Ghaziabad in Association with E&ICT IIT Roorkee
21st May, 2018	Dr. Umang Singh	Delivered Talk on Routing Protocols for IoT" at BVICAM, New Delhi
11th -12th May,2018	Prof. K.P. Singh, Prof. Smita Kansal , Prof. Abhay Kr. Ray	Attended Training Programe on "Digitalization of Marketing" at AKGIM, Ghaziabad
24th May, 2018	Dr. Umang Singh	Participated in IT Digital Conclave JobBuzz Workshop 2025
23rd -27th April, 2018	Prof. Puja Dhar ,Prof. Saurabh Saxena & Prof. Varun Arora	Attended Faculty Development Programme on "Computer Forensic and Cyber Crime. conducted by Department of Information Technology, ABES Engineering College, Ghaziabad under Technical Education Quality Improvement Program- Phase III(TEQIP-III) Dr. A.P.J Abdul Kalam Technical University, Uttar Pradesh, Lucknow.

Announcement and Contact Details

VIBRANCE is an E-Newsletter of Department of I.T, I.T.S, Ghaziabad. We look forward to the contribution from our students, alumni, faculty members and industry experts.

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