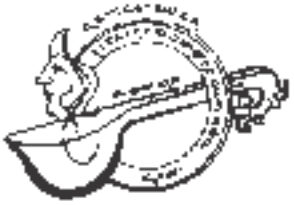
Il Om Shree Manjunathaya Namaha Il

MMK & SDM MAHILA MAHAVIDYALAYA

Krishnamurthypuram, Mysore



GI Talk

Girls IT Talk...

Prof. K.V.DAMODARA GOWDA
Principal

Mrs. SUKRUTHA. K.S
HOD of Computer Science

Faculty Editors
Mrs. S.K.Ramya
Mrs. Jyothi Lakshmi G.Kava

Nov. 25, 2015
Department of Computer Science
Issue 16

Student Editors
Nishkala M.N
Raksha Nagesh

Editorial

The Department of Computer Science presents the Sixteenth issue of "GI Talk" to its readers. As usual the issue contains very good piece of information on the latest development of computers and their applications. The voice of innovative technologies have also been reflected in the pages of "GI Talk".

I am happy to write that the students have contributed very good articles under the guidance of their teachers. I hope that readers would receive them positively as usual. Constructive suggestions are welcome.

My best compliments to the staff and students of the Department.

Prof. K.V. Damodara Gowda
Chief Editor

Message by HOD

It gives me great opportunity to present the 16th issue of Bi annual News Letter " GI Talk". The issue comprises the activities and achievements of the Department in the Academic and Co-curricular as well as Research and Development. The Department aim is to impart value based quality education along with development of positive attitude, skills and abilities among students to apply their knowledge in order to face the challenges of future. In order to fulfill this aim GI Talk is a platform for students of this Department to explore and galore in IT field.

I congratulate the team of faculty members and the students for their brilliant work in bringing out this issue. I hope the readers will find this issue of News Letter very informative and educative. We will be happy to receive readers suggestion for further improvement and development of the News Letter.

K.S. Sukrutha
HOD, Computer Science

Python (Programming Language)

Python is a widely used general-purpose, high-level programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than would be possible in languages such as C++ or Java. The language provides constructs intended to enable clear programs on both a small and large scale.

Python supports multiple programming paradigms, including object-oriented, imperative and functional programming or procedural styles. It features a dynamic type system and automatic memory management and has a large and comprehensive standard library.

Python interpreters are available for installation on many operating systems, allowing Python code execution on a wide variety of systems. Using third-party tools, such as Py2exe or Pyinstaller, Python code can be packaged into stand-alone executable programs for some of the most popular operating systems, allowing the distribution of Python-based software for use on those environments without requiring the installation of a Python interpreter.

CPython, the reference implementation of Python, is free and open-source software and has a community-based development model, as do nearly all of its alternative implementations. CPython is managed by the non-profit Python Software Foundation.

HISTORY

Guido van Rossum, the creator of Python

Python was conceived in the late 1980s, and its implementation was started in December 1989 by Guido van Rossum at CWI in the Netherlands as a successor to the ABC language (itself inspired by SETL) capable of exception handling and interfacing with the Amoeba operating system. Van Rossum is Python's principal author, and his continuing central role in deciding the direction of Python is reflected in the title given to him by the Python community, benevolent dictator for life (BDFL).

Python 2.0 was released on 16 October 2000 and had many major new features, including a cycle-detecting garbage collector and support for Unicode. With this release the development process was changed and became more transparent and community-backed.

Python 3.0 (also called Python 3000 or py3k), a major, backwards-incompatible release, was released on 3 December 2008 after a long period of testing. Many of its major features have been backported to the backwards-compatible Python 2.6 and 2.7.

Features and Philosophy

Python is a multi-paradigm programming language: object-oriented programming and structured programming are fully supported, and there are a number of language features which support functional programming and aspect-oriented programming (including by metaprogramming and by magic methods). Many other paradigms are supported using extensions, including design by contract and logic programming.

Python uses dynamic typing and a combination of reference counting and a cycle-detecting garbage collector for memory management. An important feature of Python is dynamic name resolution (late binding), which binds method and variable names during program execution.

The design of Python offers some support for functional programming in the Lisp tradition. The language has map(), reduce() and filter() functions; comprehensions for lists, dictionaries, and sets; and generator expressions. The standard library has two modules (itertools and

functools) that implement functional tools borrowed from Haskell and Standard ML.

The core philosophy of the language is summarized by the document "PEP 20 (The Zen of Python)", which includes aphorisms such as:

Beautiful is better than ugly

Explicit is better than implicit

Simple is better than complex

Complex is better than complicated

Readability counts

Rather than requiring all desired functionality to be built into the language's core, Python was designed to be highly extensible. Python can also be embedded in existing applications that need a programmable interface. This design of a small core language with a large standard library and an easily extensible interpreter was intended by Van Rossum from the very start because of his frustrations with ABC (which espoused the opposite mindset).

While offering choice in coding methodology, the Python philosophy rejects exuberant syntax, such as in Perl, in favor of a sparser, less-cluttered grammar. As Alex Martelli put it: "To describe something as clever is not considered a compliment in the Python culture." Python's philosophy rejects the Perl "there is more than one way to do it" approach to language design in favor of "there should be one-and preferably only one-obvious way to do it".

Python's developers strive to avoid premature optimization, and moreover, reject patches to non-critical parts of CPython that would offer a marginal increase in speed at the cost of clarity. When speed is important, Python programmers use PyPy, a just-in-time compiler, or move time-critical functions to extension modules written in languages such as C. Cython is also available, which translates a Python script into C and makes direct C-level API calls into the Python interpreter.

An important goal of the Python developers is making Python fun to use. This is reflected in the origin of the name, which comes from Monty Python,[44] and in an occasionally playful approach to tutorials and reference materials, such as using examples that refer to spam and eggs instead of the standard foo and bar.

A common neologism in the Python community is pythonic, which can have a wide range of meanings related to program style. To say that code is pythonic is to say that it uses Python idioms well, that it is natural or shows fluency in the language, that it conforms with Python's minimalist philosophy and emphasis on readability. In contrast, code that is difficult to understand or reads like a rough transcription from another programming language is called unpythonic.

Users and admirers of Python-especially those considered knowledgeable or experienced-are often referred to as Pythonists, Pythonistas, and Pythoneers.

Aishwarya M.J., III BCA

Cyborg Roses Wired with Self-Growing Circuits

Scientists have created roses that have self-assembling electronic circuits inside them. The method could one day help produce self-monitoring plants. Credit: Linköping University

Scientists have created a kind of cyborg flower: living roses with tiny electronic circuits threaded through their vascular systems.

The miniscule electronic polymers are inserted into the plant, then almost magically self-assemble thanks to the rose's internal structure.

"In a sense, the plant is helping to organize the electronic devices," said study co-author Magnus Berggren, an organic electronics researcher at Linköping University in Sweden. The strange cyberplants could one day make it possible to tell flowers when to bloom to avoid an impending frost, or when to put out hormones to prevent a drought.

Varshini G.I. BCA

No Batteries Required: New Wireless Technology May Power Range Of Mobile / Wearable Devices

Wearable technology seems to be a hot topic these days. Most of the major technology players have some form of wearable device in the works. Samsung is calling its product line, Galaxy Gear, which they say will encourage "a smarter life." The hope is that Internet technology will move from being something that is some-what independent of us to something that is literally woven into our daily existence. From your shoes to your shirt, stove to your toilet, the future may be found in connecting every part of our lives. This is sometimes referred to as the "Internet of Things." Yet a fundamental problem still remains. How to power all these things?

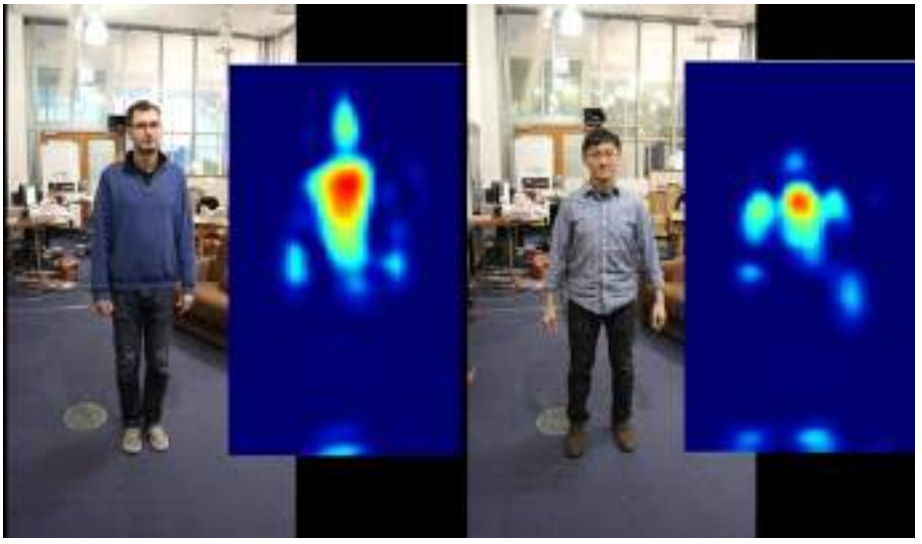
Here's the question, would you use a "smart watch" if the battery only lasted 10 hours? For me the answer is probably no. But thanks to a new breakthrough from researchers at the University of Washington this problem may soon be a thing of the past.

The researchers have created a new wireless technology they describe as Ambient Backscatter. A UW website explains the concept further, "it transforms existing wireless signals into both a source of power and a communication medium. It enables two battery-free devices to communicate by backscattering existing wireless signals. Backscatter communication is orders of magnitude more power-efficient than traditional radio communication. Further, since it leverages the ambient RF signals that are already around us, it does not require a dedicated power infrastructure as in RFID."

"It's hopefully going to have applications in a number of areas including wearable computing, smart homes and self-sustaining sensor networks," said lead researcher Shyam Gollakota, a UW assistant professor of computer science and engineering.

Preethi B., I BCA,

'X-Ray Vision' Tech Uses Radio Waves to 'See' Through Walls



"X-ray vision" that can track people's movements through walls using radio signals could be the future of smart homes, gaming and health care, researchers say.

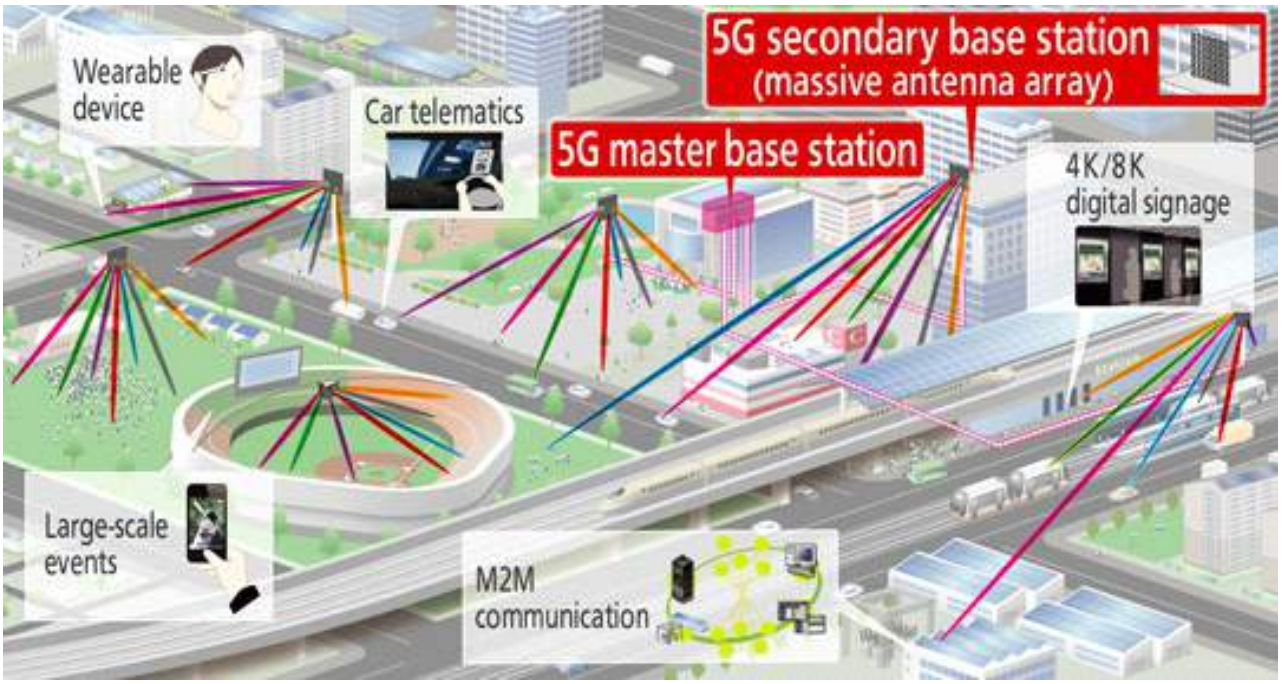
A new system built by computer scientists at MIT can beam out radio waves that bounce off the human body. Receivers then pick up the reflections, which are processed by computer algorithms to map people's movements in real time, they added.

Unlike other motion-tracking devices, however, the new system takes advantage of the fact that radio signals with short wavelengths can travel through walls. This allowed the system, dubbed RF-Capture, to identify 15 different people through a wall with nearly 90 percent accuracy, the researchers said. The RF-Capture system could even track their movements to within 0.8 inches (2 centimeters).

Bindhu Raj, I BCA

Answers : 1. C, 2. C, 3. A, 4. B, 5. C, 6. B, 7.D, 8.A, 9.B, 10.D

HOW 4G AND 5G DIFFER…



1. First and foremost, while the LTE-based 4G networks are going through a rapid deployment, 5G networks mostly comprise of research papers and pilot projects. The wireless industry is broadly targeting 2020 for the widespread deployment of 5G networks.
2. Wireless networks till 4G mostly focused on the availability of raw bandwidth, while 5G is aiming on providing pervasive connectivity to lay grounds for fast and resilient access to the Internet users, whether they are on a top of a skyscraper or down under a subway station. Although LTE standard is incorporating a variant called machine type communications (MTC) for the IoT traffic, 5G technologies are being designed from grounds up to support MTC-like devices.
3. The 5G networks are not going to be a monolithic network entity and will be built around a combination of technologies: 2G, 3G, LTE, LTE-A, Wi-Fi, M2M, etc. In other words, 5G will be designed to support a variety of applications such as the IoT, connected wearables, augmented reality and immersive gaming.

   Unlike its 4G counterpart, 5G network will offer the ability to handle a plethora of connected devices and a myriad of traffic types. For example, 5G will provide ultra-high-speed links for HD video streaming as well as low-data-rate speeds for sensor networks.
4. The 5G networks will pioneer new architectures like cloud RAN and virtual RAN to facilitate a more centralized network establishment and make the best use of server farms through localized data centers at the network edges.
5. Finally, 5G will spearhead the use of cognitive radio techniques to allow the infrastructure to automatically decide about the type of channel to be offered, differentiate between mobile and fixed objects, and adapt to conditions at a given time. In other words, 5G networks will be able to serve the industrial Internet and Facebook apps at the same time.

The goals of 5G technology can be summarized in the following value points:

1,000x increase in capacity

Support for 100+ billion connections

Up to 10Gbit/s speeds

Below 1ms latency

Harshitha S., I BCA

STAFF ACTIVITY

- Smt Jyothilakshmi G Kava and Smt M P Nayana attended Training sessision on Google Apps held at SDM College, Ujire on 6th July 2015.
- An article written by Ms Ashwini M B, Assistance Professor of Computer Science titled “Evaluation of Iris Recognition System on Multiple Feature Extraction Algorithms and its combination” was published in the International Journal of Computer Application Technology and Research Volume 4 – Issue 8, 592-598, 2015, ISSN:2319-8656.
- All Staff members of the Department attended One Day Syllabus awareness Programme on 2nd September 2015 organized by Computer Science Teachers Association at SBRR Mahajana First Grade College Mysore.
- Smt Sukrutha K S and Smt Jyothilakshmi G Kava participated in UGC Sponsored One Day State Level Seminar on the Topic “Next Generation Computing -Opportunities & Challenges” held at SBRR Mahajana Post Graduate Wing on 11th September 2015.
- Smt Ramya Selva Kumar and Smt V Rajitha participated in UGC Sponsored One Day National Level Seminar on the Topic “Emerging Technologies in Computer Science and Information Technology” held at St. PhilominasCollege, Puttur on 11th September 2015.

BIG DATA HADOOP

WHAT IS BIG DATA & HADOOP?

We create 2.5 quintillion bytes of data every day. So much that 90% of the data in the world today has been created in the last two years alone. Source: IBM Big Data

Big data has thus created opportunities like never before. Professionals who can analyze all this data & create useful information are highly sought after by companies across the world

Hadoop is a software framework for storing and processing Big Data. It is an open-source tool build on java platform and focuses on improved performance in terms of data processing on clusters of commodity hardware.

Hadoop comprises of multiple concepts and modules like HDFS, Map-Reduce, HBASE, PIG, HIVE, SQOOP and ZOOKEEPER to perform the easy and fast processing of huge data

Hadoop conceptually different from Relational databases and can process the high volume, high velocity and high variety of data to generate value.

Manisha Patel, II BCA

A software engineer was smoking....

A lady standing nearby asked him, 'can't you see the warning ?? Smoking is injurious to health....!"

He replied, 'We are bothered only about Errors, not Warnings !!"

D-ROLL LAPTOP

Laptop with its flexible screen rolled upon the tower is called Roll top which wasdeveloped by Orkin Design. Roll top has all the features of laptop and more.

Roll top is a portable computerdevelopment concept for designer,architect and everyone, who wouldlike to have a gadget.

D-roll laptop is a next generation concept laptop This laptop has design which is so different from standard laptops and shape. two modes. If it works in full functionmode, the notebook is completely unfolded Allowing users to check and send e-mail when and all peripheralsare turned on. D-roll isunder email mode.

Diameter-8.3 Length-28 cm Multi Touch Screen OLED Screen-17 inches used as amonitor nScreen -13 inches as a laptop cm

Flexible OLED display

The "ROLL Laptop" has a flexible OLED displaythat is also When rolled out it becomes a 17-inch flat screenbut can capable of multitouch. also be folded into a 13-inch tablet ofsorts.

D-roll Laptop features a roll up OLED screen and a slide outkeyboard, together with a mouse and a detachable webcam thatcan be worn on The mouse and web camera can also your wrist when not attached to the system. be used as the end caps forthe laptop case, while the straps double as ports to plug in your USBdevices.

PROVIDE EASY INCARRYING EASY TO LOCK

D-roll can be locked on to seating desk or anything unmovable.

By using the strap on thelaptop, the user could put it on the shoulder like carrying an artist tube or purse.

Rolling Laptop bags solve a lot of problems forthe The most common type of olling laptop bags,are the ones that modern traveler The advantages of rolling are made out of foam typematerial on the outside laptop bags, is thatit gives the shoulders and the back of thetraveler a break.

KEYBOARD FUNCTION MODE EMAIL MODE VIDEO CAMERA USB

Compared to USB outlets ontraditional laptops , those are more accessible and less cluttered.

It is an add on to multimedia

It is for energy saving user can checkemails and browse websites under thismode.

Under full function mode itcan be used as normal laptop.

The Ergonomic keyboard is the form of an arc.it allows users to put their hands and arms in anatural and comfortable position when typing.

D-roll has an innovative Cooling is always an issue intraditional laptops. coolingsystem which is able to create air flowto cool the computer inside out. The Cooling system can exhaust theheat Bytaking advantage of air circulation. from inside to outside efficiently.

One, the Rolltop combines the laptop, monitorand graphic Secondly, the Rolltop is an all-in-one gadgetthat tables without any problem . Lastly, integrates the power supply, loudspeaker,laptop bag and mouse into one. due to the new available technology, thedesign is very compact and possesses acompletely new outlook.

Unlike a laptops two-fold, book-likeappearance, one needs to unfurl the rolltop .

As a direct consequence, a laptop when closedappears flat while a rolltop when closed, appearsrounded, as its name obviously suggests.

Raksha Nagesh, II BCA

History of PHP

PHP as it's known today is actually the successor to a product named PHP/FI. Created in 1994 by Rasmus Lerdorf, the very first incarnation of PHP was a simple set of Common Gateway Interface (CGI) binaries written in the C programming language. Originally used for tracking visits to his online resume, he named the suite of scripts "Personal Home Page Tools," more frequently referenced as "PHP Tools." Over time, more functionality was desired, and Rasmus rewrote PHP Tools, producing a much larger and richer implementation. This new model was capable of database interaction and more, providing a framework upon which users could develop simple dynamic web applications such as guest books. In June of 1995, Rasmus released the source code for PHP Tools to the public, which allowed developers to use it as they saw fit. This also permitted - and encouraged - user to provide fixes for bugs in the code, and to generally improve upon it.

In September of that year, Rasmus expanded upon PHP and - for a short time - actually dropped the PHP name. Now referring to the tools as FI (short for "Forms Interpreter"), the new implementation included some of the basic functionality of PHP as we know it today. It had Perl-like variables, automatic interpretation of form variables, and HTML embedded syntax. The syntax itself was similar to that of Perl, albeit much more limited, simple, and somewhat inconsistent. In fact, to embed the code into an HTML file, developers had to use HTML comments. Though this method was not entirely well-received, FI continued to enjoy growth and acceptance as a CGI tool --- but still not quite as a language. However, this began to change the following month; in October, 1995, Rasmus released a complete rewrite of the code. Bringing back the PHP name, it was now (briefly) named "Personal Home Page Construction Kit," and was the first release to boast what was, at the time, considered an advanced scripting interface. The language was deliberately designed to resemble C in structure, making it an easy adoption for developers familiar with C, Perl, and similar languages. Having been thus far limited to UNIX and POSIX-compliant systems, the potential for a Windows NT implementation was being explored.

The code got another complete makeover, and in April of 1996, combining the names of past releases, Rasmus introduced PHP/FI. This second-generation implementation began to truly evolve PHP from a suite of tools into a programming language in its own right. It included built-in support for DBM, mSQL, and Postgres95 databases, cookies, user-defined function support, and much more. That June, PHP/FI was given a version 2.0 status. An interesting fact about this, however, is that there was only one single full version of PHP 2.0. When it finally graduated from beta status in November, 1997, the underlying parsing engine was already being entirely rewritten.

Though it lived a short development life, it continued to enjoy a growing popularity in still-young world of web development. In 1997 and 1998, PHP/FI had a cult of several thousand users around the world. A Netcraft survey as of May, 1998, indicated that nearly 60,000 domains reported having headers containing "PHP", indicating that the host server did indeed have it installed. This number equated to approximately 1% of all domains on the Internet at the time. Despite these impressive figures, the maturation of PHP/FI was doomed to limitations; while there were several minor contributors, it was still primarily developed by an individual.

PHP 7.0.0.RC 7

The PHP development team announces the immediate availability of PHP 7.0.0 RC 7. This is the twelfth pre-release of the new PHP 7 major series. All users of PHP are encouraged to test this version carefully, and report any bugs and incompatibilities in the bug tracking system.

PHP 7.0.0 RC 7 contains fixes for 17 reported bugs.

PHP 7.0.0 comes with new version of the Zend Engine with features such as

- Improved performance: PHP 7 is up to twice as fast as PHP 5.6
- Consistent 64-bit support
- Many fatal errors are now Exceptions
- Removal of old and unsupported SAPIs and extensions
- The null coalescing operator (??)
- Combined comparison Operator (<=>)
- Return Type Declarations
- Scalar Type Declarations
- Anonymous Classes

Treethi, I BCA

C QUIZ

1.What is the correct value to return to the operating system upon the successful completion of a program?
A. -1
B. 1
C. 0
D. Programs do not return a value.

2. What is the only function all C programs must contain?
A. start()
B. system()
C. main()
D. program()

3. What punctuation is used to signal the beginning and end of code blocks?
A. { }
B. -> and <-
C. BEGIN and END
D. (and)

4. What punctuation ends most lines of C code?
A. .
B. ;
C. :
D. '

5. Which of the following is a correct comment?
A. */ Comments */
B. ** Comment **
C. /* Comment */
D. { Comment }

6. Which of the following is not a correct variable type?
A. float
B. real
C. int
D. double

7. Which of the following is the correct operator to compare two variables?
A. :=
B. =
C. equal
D. ==

8. What is the output of this C code?

```
1. #include <stdio.h>
2. void main()
3. {
4. int a[3] = {1, 2, 3};
5. int *p = a;
6. printf("%p\t%p", p, a);
7. }
```

a) Same address is printed.

b) Different address is printed.

c) Compile time error

d) Nothing

9. What is the output of this C code?

```
1. #include <stdio.h>
2. void main()
3. {
4. char *s = "hello";
5. char *p = s;
6. printf("%p\t%p", p, s);
7. }
```

a) Different address is printed
b) Same address is printed
c) Run time error
d) Nothing

10. What is the output of this C code?

```
1. #include <stdio.h>
2. void main()
3. {
4. char *s= "hello";
5. char *p = s;
6. printf("%c\t%c", *(p + 3),  s[1]);
7. }
```

a) h e
b) l l
c) l o
d) l e

Nishkala M.N., II BCA

Answer to the above QUIZ is in page No.4

Photo Gallery

Ms. Sindhushree M S of II B.C.A giving a Power Point Presentation on the topic Object Oriented Databases on 6th August 2015

Students with Principal and staff members during Inauguration of Wall Magazine

Tech World on 27th July 2015.

Students of I B Sc at Ted-Lecture Programme organized by Department of Computer Science on the topic Future Wearable Technology 29th July 2015

Interclass IT Quiz Competition held on 14th October 2015 organized by Tech Ameature IT Club P5.Internet Awaareness Programme for the students of Bhagini Seve Samaja High School held on 24th August 2015

Inauguration of Tech Ameature IT Club by Dr. B S Harish Associate Professor, SJCE, Mysore 25th August 2015

A special talk on "Data Minning" by Dr. B S Harish Associate Professor, SJCE, Mysore on 25th August 2015

Interclass Debate Competition held on 19th September 2015 organized by Tech Ameature IT Club on the topic "Is Modern Technology is taking over People's Job"

Photo Gallery

Inauguration of One Day State Level Seminar on "Multimedia Information System" by Dr. D.S. Guru, Associate Professor and Nodal Officer at DOS in Computer Science Manasagangothri, Mysore held on 1st October 2015

Key note address by Dr. D.S. Guru, Associate Professor and Nodal Officer at DOS in Computer Science, Manasagangothri, Mysore during One Day State Level Seminar on "Multimedia Information System" held on 1st October 2015

Address by Chief Guest Dr C G Betsurmutt, Municipal Commissioner of Mysore City Corporation during One Day State Level Seminar on "Multimedia Information System" held on 1st October 2015

Delegates at One Day State Level Seminar on "Multimedia Information System" held on 1st October 2015

Address by Dr Sharath Kumar Y H, HOD and associate Professor, Department of Information Science and Engineering M I T, Mysoer during valedictory function of One Day State Level Seminar on "Multimedia Information System" held on 1st October 2015

Organizing Committee with participants of One Day State Level Seminar on "Multimedia Information System" held on 1st October 2015

Office Bearers of Tech Ameature IT Club of the Department of Computer Science with Principal and Staff members of the academic year 2015-16

Toppers of University Examination of May/June 2015

Meghana M. Patel
I B.Sc. - **95/100 - I**

Chaitra N
I B.Sc. - **81/100 - II**

Pallavi K.
I B.Sc. - **81/100 - II**

Nisha N.
I B.Sc. - **76/100 - III**

Sindhuja S
II B.Sc. - **94/100 - I**

Swathi M.
II B.Sc. - **86/100 - II**

Ramya Hebbar S.
II B.Sc. - **80/100 - III**

Smitha S.R.
III B.Sc. - **258/300 - I**

Sowmya K.V.
III B.Sc. - **252/300 - II**

Archana B.
III B.Sc. - **251/300 - III**

Shruthi D.
I BCA- **268/300 - I**

Jeevitha M.
I BCA- **252/300 - II**

Manisha
I BCA - 251/300 - III

Varsha V.S.
II BCA- **507/600 - I**

Anusha R.
II BCA - **507/600 - II**

Vandana N.
II BCA - **503/600 - II**

Ummesara
II BCA - **503/600 - II**

Manasa D.S.
II BCA - **502/600 - III**

Shruthi D.
III BCA- **195/200 - I**

Kavyashree V.
III BCA- **191/200 - II**

Priya K.P.
III BCA - 190/200 - III