

## MENTAL ABILITY

- A two digit number is such that the product of its digits is 12. When 9 is added to the number, the digits interchange their places, find the number.

(A) 62                      (B) 34                      (C) 26                      (D) 43
- In a coaching institute there are total 170 students and they use different vehicles for transportation viz. bike, car and taxi. The ratio of students using all 3 vehicles to students using atleast 2 vehicles is 2 : 9. The ratio of students using only one vehicle to students using atleast 2 vehicles is 8 : 9. Number of students using car only exceeds number of students using bike only by 14. Number of students using taxi only exceeds number of students using bike only by 12. Number of students using taxi, bike, car is 90, 93, 97 respectively, then number of students using all three vehicles is \_\_\_\_\_.

(A) 18                      (B) 12                      (C) 20                      (D) 25
- An old person forgets the last two digits of a telephone number, remembering only that these are different dialled at random. The probability that the number is dialled correctly is \_\_\_\_\_.

(A)  $\frac{1}{90}$                       (B)  $\frac{81}{91}$                       (C)  $\frac{2}{99}$                       (D)  $\frac{2}{91}$
- There are two pockets, each containing 3 coins of different denominations, which are in A.P. and the total value of coins in each pocket is ₹ 21. The common difference of the first set of coins is greater than that of the second set by 1, and the product of the first set is the second set as 8 to 9. Find the value of the coin of largest denomination, among the six coins.

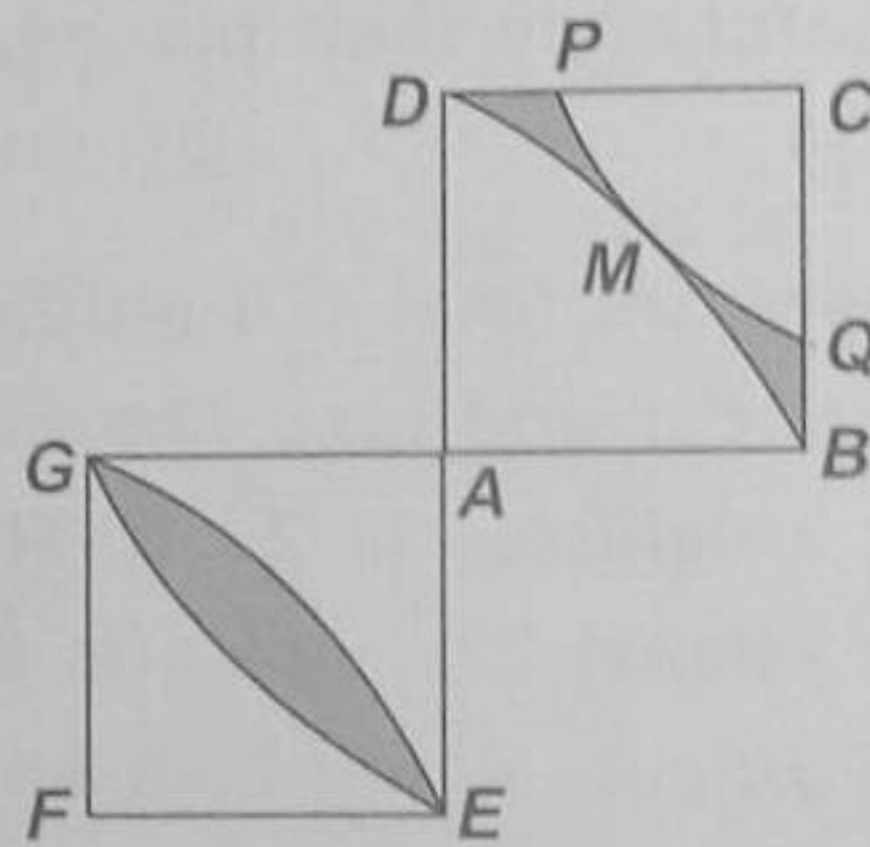
(A) 9                      (B) 8                      (C) 11                      (D) 10



5. In the fruit market adjacent to IIM Lucknow, a fruit vendor has total 20 kg of fruits containing only mangoes and apples. The vendor told to Ritika, an IIM student, that one kg apple contains only 7 apples while 1 kg of mangoes contains 10 mangoes and it is known that all the mangoes and apples are uniform in size individually. Ritika purchased 55 fruits to distribute equally among the group of students, irrespective of the kind of fruit i.e., mango or apple. If the selling price of mangoes and apples be ₹ 35 per kg and ₹ 40 per kg respectively, then the money Ritika has spent for the 7 kg of fruits is \_\_\_\_\_.

(A) ₹ 262.5                      (B) ₹ 255                      (C) ₹ 270                      (D) ₹ 155

6.  $ABCD$  and  $EFGA$  are the squares of side 4 cm, each. In square  $ABCD$ ,  $DMB$  and  $PMQ$  are the arcs of circles with centres at  $A$  and  $C$  respectively. In square  $AEFG$ , the shaded region is enclosed by two arcs of circles with centres at  $A$  and  $F$  respectively, then the ratio of the shaded regions of squares  $ABCD$  and  $AEFG$  respectively \_\_\_\_\_.



(A)  $\frac{2 + \pi(\sqrt{2} - 2)}{(\pi - 2)}$                       (B)  $\frac{(\pi - 2)}{2(\sqrt{2} + 1 - \pi)}$                       (C)  $\frac{4}{3}$                       (D) None of these

7. 7 sisters dine at a round table. They dine together till each of them dine with different neighbours i.e., they do not like to dine with same neighbours in any two arrangements. In a year how many days they dine together?

(A) 180                      (B) 504                      (C) 720                      (D) 360

8. At the foot of a mountain the elevation of its peak is found to be  $\frac{\pi}{4}$ , after ascending 'h' metres towards the mountain up a slope of  $\frac{\pi}{6}$  inclination, the elevation is found to be  $\frac{\pi}{3}$ . Height of the mountain is \_\_\_\_\_.

(A)  $\frac{h}{2}(\sqrt{3} - 1)$  metres                      (B)  $h(\sqrt{3} - 1)$  metres

(C)  $\frac{h}{2}(\sqrt{3} + 1)$  metres                      (D)  $h(\sqrt{3} + 1)$  metres





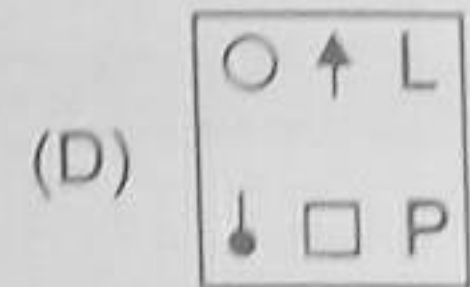
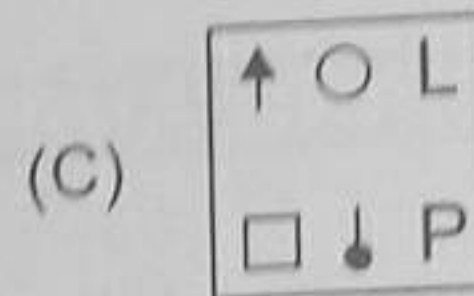
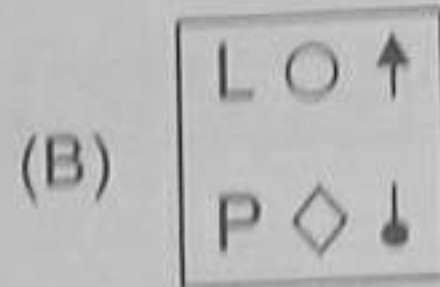
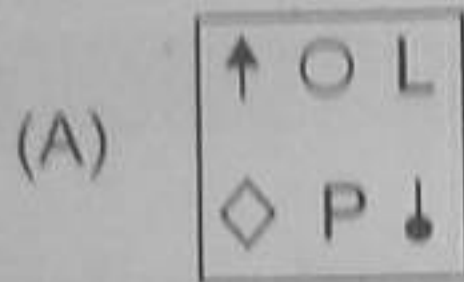
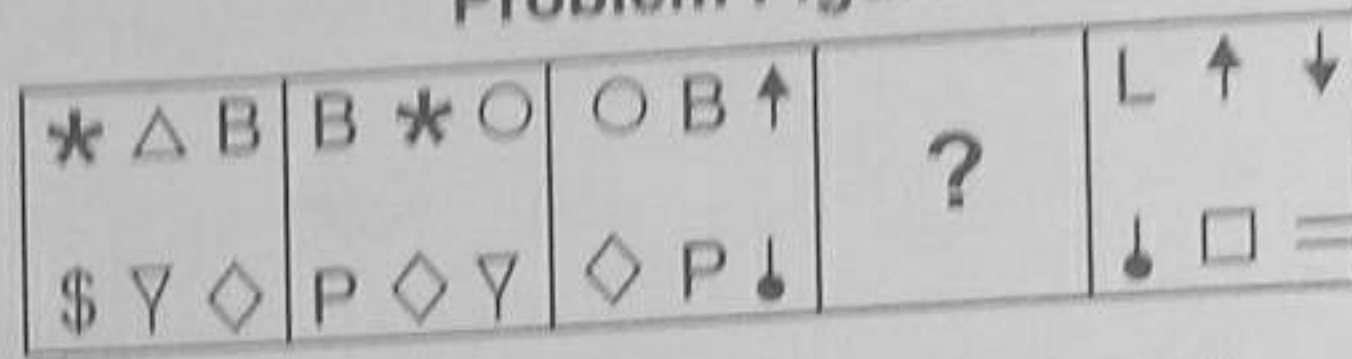


14. If every alternative letter of English alphabet from B onwards (including B) is written in lower case (small letters) and the remaining letters are capitalized, then how will the first month of the second half of the year be written?  
 (A) JuLy (B) AuGuSt (C) jUIY (D) AugUSt

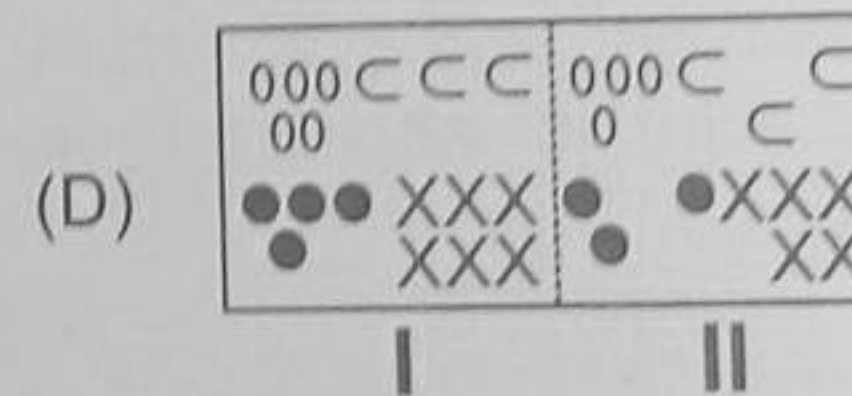
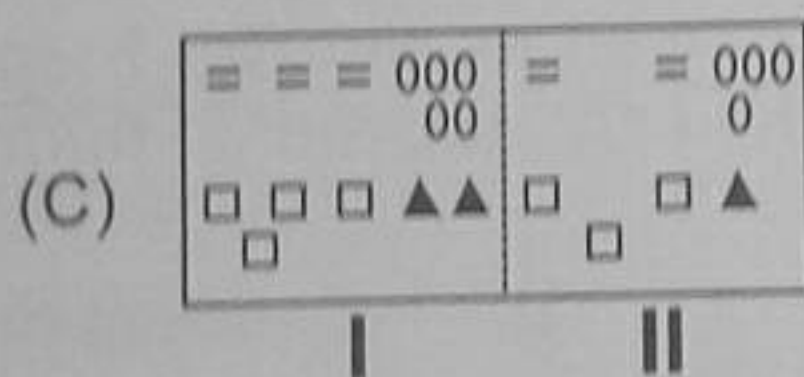
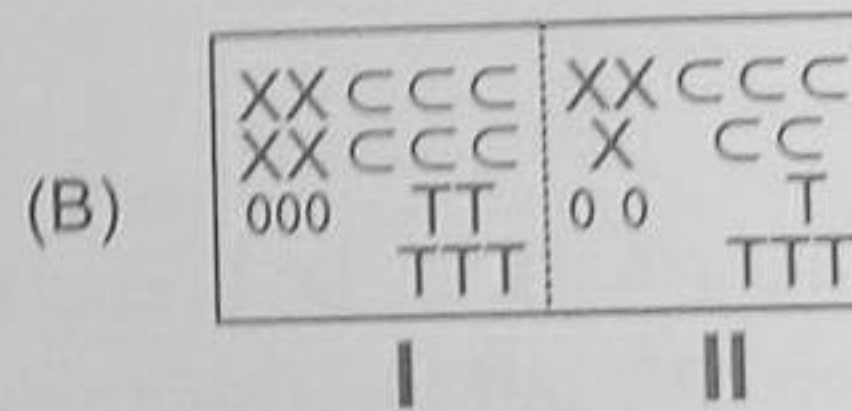
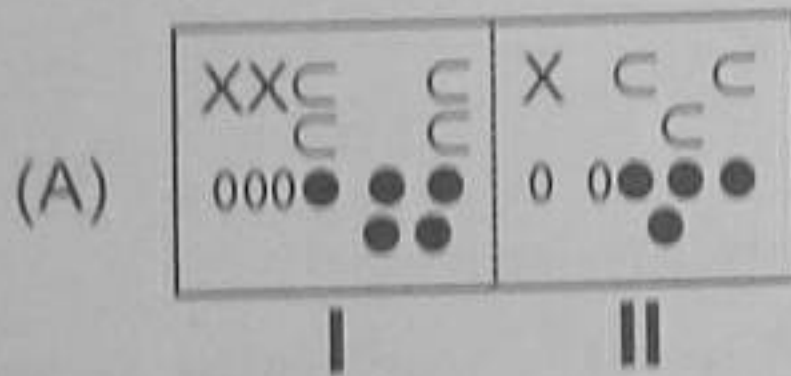
15. If '>' denotes '+', '<' denotes '-', '^' denotes 'x', '=' denotes '=', 'x' denotes '>' and '=' denotes '<', then which of the following is true?  
 (A)  $7 > 7 < 7 + 7 = 14$   
 (B)  $7 \wedge 7 > 7 + 7 = 7 \wedge 7 > 1$   
 (C)  $7 < 7 + 7 = 6$   
 (D)  $7 + 7 > 7 = 8$

16. Select a suitable figure from the options so that series is taken in order.

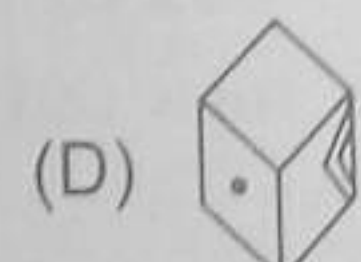
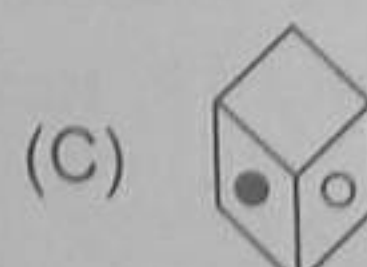
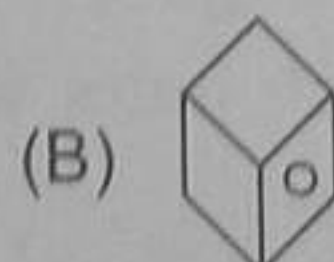
Problem Figure



17. There is out of the given four pairs of figures, fig. I is related to fig. II in the same particular manner. Spot out the pair in which this relationship does not exist between figures I and II.



18. The sheet of paper shown in Fig.(X) is folded to form a box. Choose from amongst the options, the boxes that are similar to the Fig.(X) that will be formed.

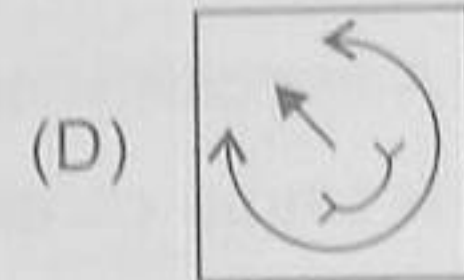
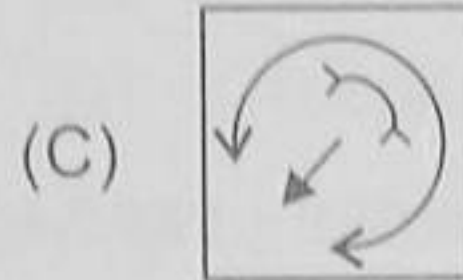
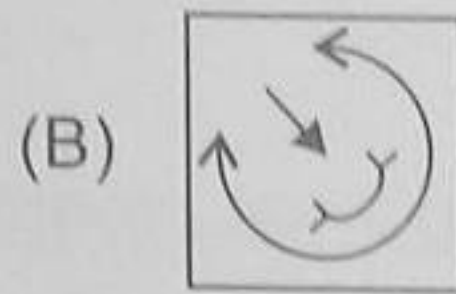
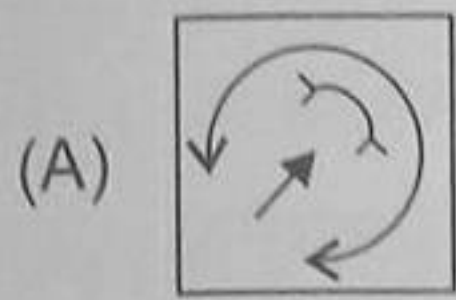




19. Choose the correct mirror-image of the Fig.(X) from amongst the options if mirror is placed vertically left.



Fig.(X)



20. A man goes to a market. He spends ₹ 4 on the Bus fare. He decides to spend as much on each item as the number of items he has to buy. He buys the first item and meets a man whom he owes ₹ 13. He pays him that amount. Again he spends as much on each of the items as the number of items that he has to buy and is left with no money.

If after paying ₹ 13 to the man, he decides to keep ₹ 26 aside for taxi fare, then what could be amount spent on each of the remaining items if he decides to spend the money equally?

- (A) ₹ 14                      (B) ₹ 13                      (C) ₹ 12                      (D) ₹ 11

## COMPUTERS AND INFORMATION TECHNOLOGY

21. Find the odd one out.

- (A) CRAY X-MP      (B) PDP-11      (C) PACE      (D) PARAM

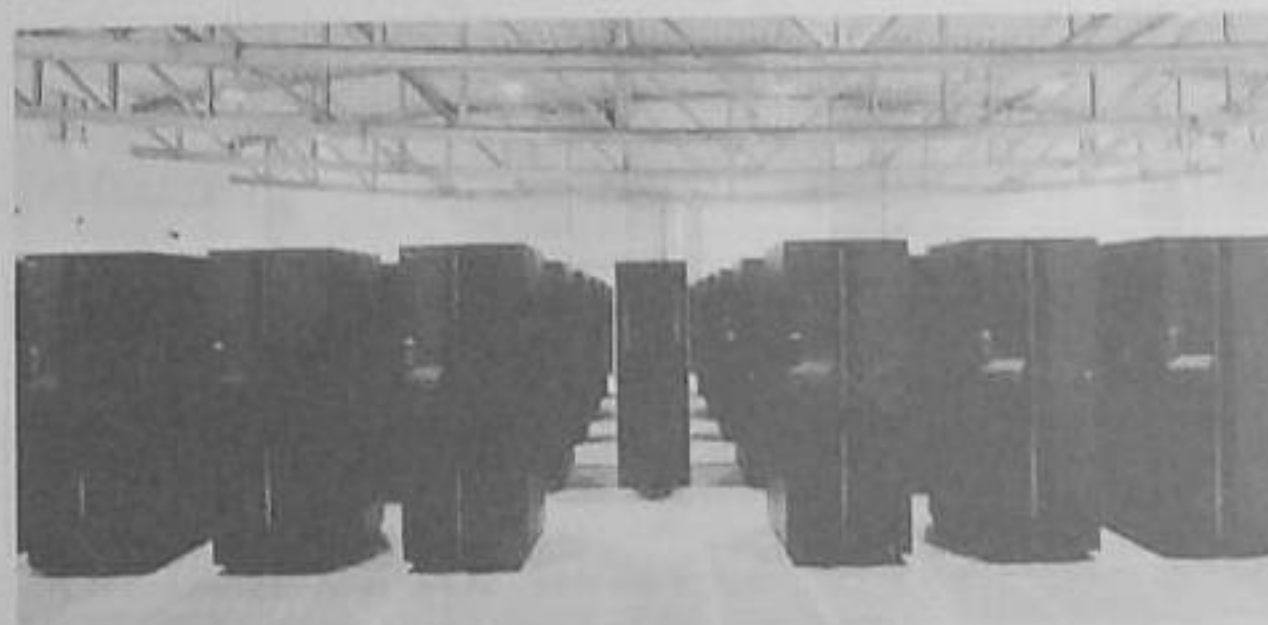
22. A \_\_\_\_\_ is a computer that contains a \_\_\_\_\_.

- (A) Microprocessor, Microcomputer      (B) Microcomputer, Microcomputer  
(C) Microcomputer, Microprocessor      (D) Microprocessor, Mainframe

23. Second generation computers \_\_\_\_\_.

- (A) Used vacuum tubes instead of electro-mechanical devices.  
(B) Allowed programming in assembly language.  
(C) Used Integrated circuits and high level languages.  
(D) Used integrated circuits and 4th generation languages.

24. What type of computer is shown in the given figure ?



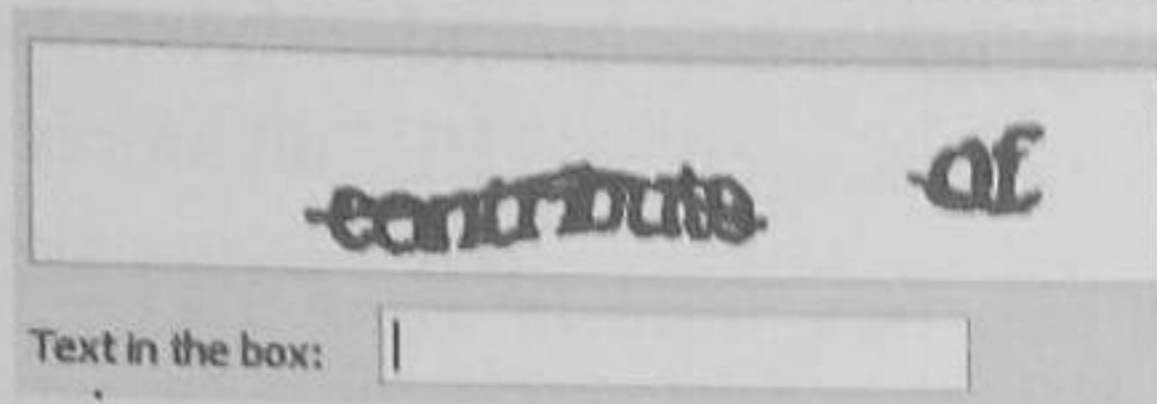
- (A) Micro computer                      (B) Super computer  
(C) Portable computer                      (D) Minicomputer



25. Which of the following is a Pre-emptive scheduling technique?  
(A) Round robin scheduling (B) First come first served scheduling  
(C) Shortest job next scheduling (D) All of these
26. An overlay is \_\_\_\_\_.  
(A) A part of the operating system  
(B) A specific memory location  
(C) A single contiguous memory used for running large programs by swapping  
(D) A group of several user files
27. In a network based on star topology, the central device can be \_\_\_\_\_.  
(A) A Switch (B) A Hub (C) Both (A) and (B) (D) None of these
28.  $(B2F)_{16} = ( \text{ ? } )_8$   
(A) 2863 (B) 5457 (C) 101100101111 (D) All of these
29. Which of the following is NOT a valid C++ declaration?  
(A) `int a = 10;` (B) `struct a a1;` (C) `double b = 0;` (D) `typedef t = int;`
30. Which of the following has list of correct C++ reserved words?  
(A) char, int, float, doubled, short, long, unsigned, signed  
(B) sizeof, const, typedef, static, voided, enum, struct, union  
(C) if, else, for, while, do, switch, continue, break  
(D) defaulted, goto, return, extern, private, public, protected
31. The latest, smoothest and fastest version of Android released in market by Google is \_\_\_\_\_.  
(A) Android 4.1, Jelly Bean (B) Android 4.0, Icecream Sandwich  
(C) Android 4.2, Key Lime Pie (D) None of these
32. Which of the following input devices is used to recognize individuals based on physical or behavioural traits?  
(A) Optical Character Readers (B) Scanners  
(C) Smart Card Readers (D) Biometric sensors
33. Which of the following storage devices are commonly used in digital cameras, mobile phones, video game consoles, etc. – providing power free storage?  
(A) Memory cards (B) USB Drives (C) Zip Drives (D) All of these
34. Which of the following is NOT a system software?  
(A) BIOS (B) Device drivers  
(C) Language processors (D) Disk compression software



35. The text shown in the given image is called \_\_\_\_\_



- (A) CAPTCHA
- (B) StrikeThrough
- (C) Firewall
- (D) Double StrikeThrough

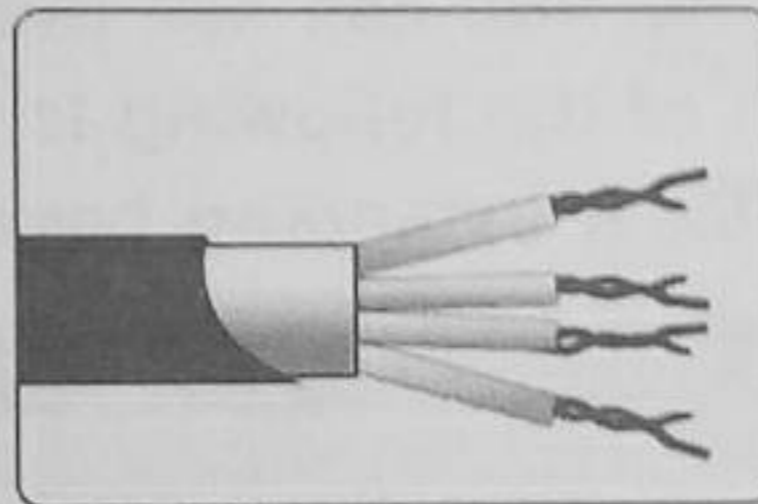
36. Apple's first tablet computer was introduced in 1993. It was \_\_\_\_\_.

- (A) Newton MessagePad 100
- (B) Acorn Message Pad 200
- (C) Apple A-GPS
- (D) Apple A4

37.  $(1011110100011000111)_2 = (\text{ ? } )_8$

- (A) 387271
- (B) 1364307
- (C) 5E8C7
- (D) 1216071161

38. The image shown here is a/an \_\_\_\_\_.



- (A) Unshielded twisted pair cable
- (B) Fiber optics cable
- (C) Coaxial cable
- (D) Shielded twisted pair cable

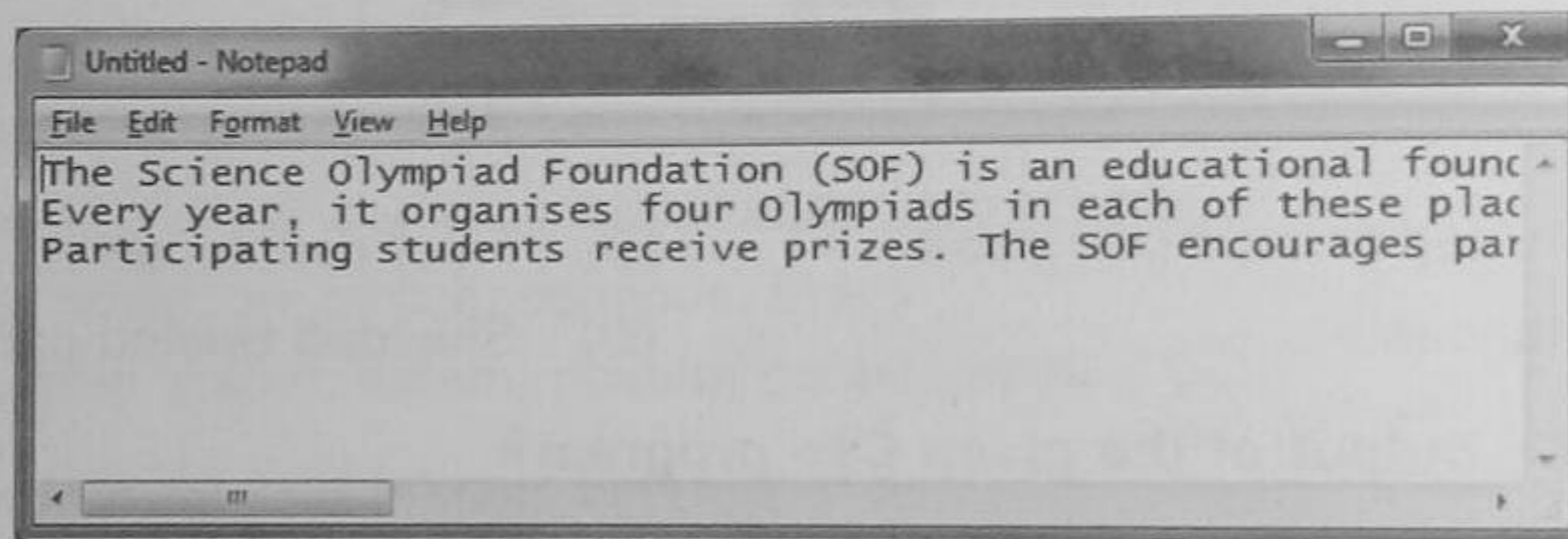
39. What is the output of the given C++ program?

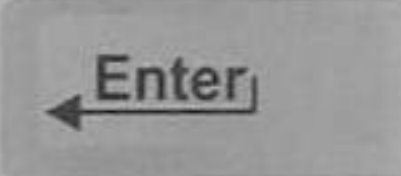
```
#include<iostream.h>
int main( )
{
    int x=1;
    int y=1;
    int z=1;
    int f;
    f = ++x||++y&&++z;
    cout<<x;
    cout<<","<<y;
    cout<<","<<z;
    return 0;
}
```

- (A) 2, 2, 2
- (B) 2, 1, 1
- (C) 1, 2, 2
- (D) 1, 2, 1



40. In the given URL, which part specifies the type of the server:  
**news://alt.tennis/getinfo/styles.asp**
- (A) news: (B) alt.tennis  
 (C) getinfo/styles.asp (D) styles.asp
41. In MS-Excel 2007, what function is used to join several text strings into one text string ?  
 (A) CONCATENATE (B) SUBTOTAL (C) TRIM (D) COUNTIF
42. In MS-PowerPoint 2007, which of the following 'view shortcut' is NOT found in the status bar ?  
 (A) Slide Editor (B) Normal (C) Slide Show (D) Slide Sorter
43. Windows Notepad contains the following menus :  
 (A) File, Edit and Review (B) File, Edit, Format, View, Help  
 (C) File, Edit, Format, Layout and Help (D) File, Edit, View, Insert, Format and Help
44. In the given program window, you can see that the text is going beyond the right edge of the window. Which of the following is the correct approach to display the complete content without let it extending beyond the right edge of the window?



- (A) Set the line length to 60 characters.
- (B) Press  such that the text extending beyond the right edge is pushed to the next line.
- (C) Turn on Word Wrap.
- (D) Decrease the font size until the whole content is visible on each line.
45. What is the correct HTML for creating a hyperlink?  
 (A) `<a url="http://www.sofworld.org">Science Olympiad Foundation</a>`  
 (B) `<a name="http:// www.sofworld.org"> Science Olympiad Foundation </a>`  
 (C) `<a>http:// www.sofworld.org </a>`  
 (D) `<a href="http:// www.sofworld.org"> Science Olympiad Foundation </a>`
46. While saving a worksheet as a CSV file, what is NOT included?  
 (A) Data (B) Values (C) Formatting (D) Headings



47. Which of these tags are all <table> tags in HTML ?
- (A) <table><head><tfoot> (B) <table><tr><tt>  
(C) <thead><body><tr> (D) <table><tr><td>
48. Which of the following HTML tags should you use to make a list where the list items are marked with numbers?
- (A) <ol> (B) <dl> (C) <list> (D) <ul>
49. In MS-Excel 2007, which formula would result in TRUE if C4 is less than 10 and D4 is less than 100?
- (A) =AND(C4>10, D4>100) (B) =AND(C4>10, C4<100)  
(C) =AND(C4>10, D4<10) (D) =AND(C4<10, D4<100)
50. Which of the following is NOT found in Control Panel of Windows 7 ?

