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TCS NQT UPDATES

All TCS NQT 2020 Exam Related
Updates/Questions shared by students will be
updated in this document.

Last updated on: 3rd Aug 2019, 1:35 PM

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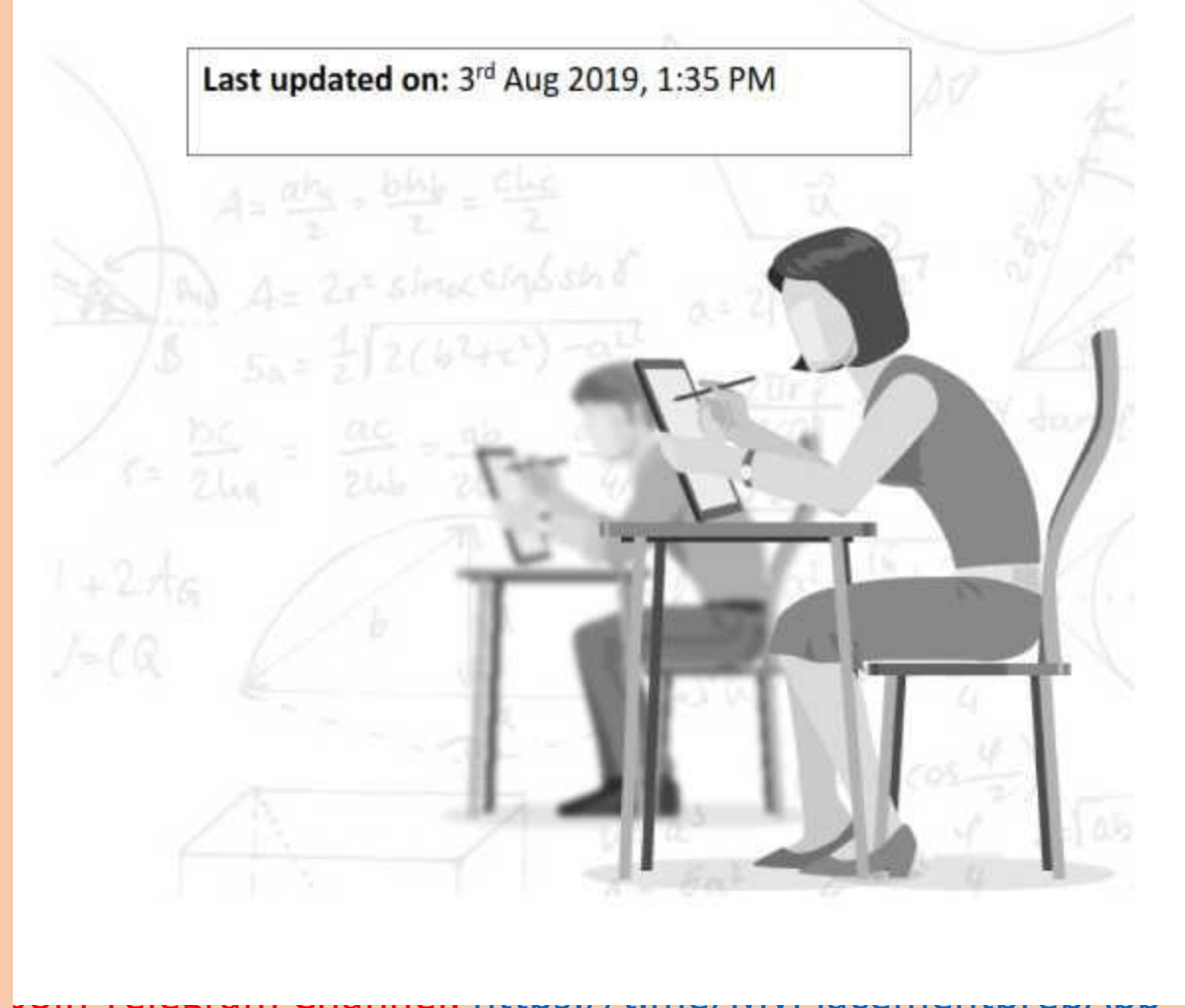
Pattern update:

Here is the confirmed pattern of the TCS NQT, as per information from test-takers of slot 1.

English - 15 Qs in 10 minutes - Cloze passage, vocabulary-based questions on passages, inferential based questions on passages
Quantitative Aptitude - 15 Qs in 30 minutes
Advanced Programming Logic - 10 Qs in 20 minutes – Questions from C, C++, Java and Compiler design TOC
Coding - 1 Q in 30 minutes – Choice of languages are C, C++, Java, Python and PERL

1. No advanced sub-sections
2. On-screen calculator available
3. Negative marking applicable for MCQ questions
4. FUB (Fill up the blank) questions were also present

English

SLOT 2 –

1. Fill in the blanks with the appropriate prepositions – (Answers in bold)
After I met with an accident, I was looked **after** my uncle. I gave a complaint to the police and they said they will look **into** it. While convalescing I read Oliver Twist. This book runs **upto** two hundred pages. I also attended a program on yoga. The program ran **for** three hours.

2. Cloze passage –
TCS' Journal of Innovation and Transformation (JIT) is our **flagship** Thought Leadership **artifact** where in **seasoned** industry practioners from TCS bring powerful insights and open up the windows for a wave of creative ideas in the new world of manufacturing. In the previous editions of JIT, we have focused on key themes such as customer experience, digital disruptions, digital forces in automotive industry etc.

The theme of the latest edition is "New Product Innovation in the Digital World" through which we explore how digitization has **revolutionized** new product development process, from product design and development to product

improvement. A key highlight for this edition is a special article titled 'Weaving the future with Digital thread' – a TCS collaboration with our esteemed partner - CIMdata.

3. Fill in the blank with the right option.
One way to enable intelligent operations is to extract _____ insights from data generated by automated processes.
a.   Assignable
b.   Achievable
c.   Actable
d.   Actionable

Answer: Actionable

SLOT 1 –

PASSAGE: In the game of cricket, any side with a pair of bowlers of complementing superior qualities prove invincible. The current generation would know Bhuvi, Bumrah or Starc-Cummins pairs better than their own parents. So, let me dissect a pair that ruled the cricketing world during the fifties and early sixties. Brian Statham and Fred Trueman of England proved to be a lethal combination that every batsman wanted to avoid playing. Stantham was a bowler of immaculate accuracy, nagging length and lyrical run-up. Oxymoronically, his virtues were the basis for his misfortunes. Knowing that he would bowl in a manner that's unplayable, batsmen were more smug in defending his balls than when playing an erratic bowler.

Trueman nicknamed as Fiery had a long delivery stride and made no bones about his intentions to test batsman's physical and mental strength. The ball would flash past the bat in moments of incredibility with the batsman thanking his Maker, if the ball missed his limbs and occasionally the stumps.

1. Which one of the following sentences has an appropriate bold part that can be replaced with lethal?
a.   The series of never-ending bubbles rejoiced the children to any end
b.   The never-say-die team won the tournament for the tenth time.
c.   "Mount vesuvius" eruption proved to be completely ruinous to pompeii
d.   The life-saving drug administered to the patient brought him back to his elements

Answer: C

2. Any team with two bowlers sharing the required traits is:

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a. Arrogant to its opponents
b. vulnerable to choke
c. hard to defeat
d. insignificant in its contribution.

Answer: C

3. Oxymoron is a special language device, where

a. A tough idea is simplified by bringing a simple parallel to it
b. Two contrasting elements are placed side by side reinforcing an idea
c. A brilliant object issued in place of a dull entrance
d. An abstract entity is compared to an exact entity emphasising similarity/difference

Answer: B

Cloze passage:

Digital twin in automotive industry presents an opportunity to pair virtual and physical worlds leveraging different technologies such as IoT, big data analytics, and simulation techniques to re-engineer critical processes as below.

Vehicle development: Integrates data across the product lifecycle to enable data-driven vehicle concept, informed design through rapid assessment of change impacts and early detection of issues, and accurate and accelerated design verification.

Vehicle manufacturing: Factory's digital twin in manufacturing enables real time data gathering from machine sensors, facilitating flexible cell manufacturing, IoT-driven maintenance strategies, and leveraging beacon data to ensure workers' safety.

Vehicle sales and service: Captures real-time field insights on driver preferences, product features' uptake, vehicle performance, and service history to create an interactive user experience on the sales floor and enable proactive and predictive after-sales service.

Quantitative Aptitude –

SLOT 2 –

1. The expression $3(x^2)-mx+10$ leaves a remainder of -2 when divided by x-3. What's the value of m?

Answer: 13

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2. 12 litres of water is poured into an aquarium of dimensions 50 cm length, 30 cm breadth and 40 cm height. By what height (in cm) will the water rise?

a. 10
b. 8
c. 20
d. 6

Answer: 8

3. Two finals are scheduled - The Wimbledon match and the World Cup Cricket at the same time. Anu wants to watch the Wimbledon finals and her brother Vinu wants to watch WCC final. They decide to roll a tetrahedral die twice. The tetrahedral is numbered 1,2,3,4 on its four sides and all numbers are equally likely to appear. Anu rolls first and then Vinu rolls. If the number on the first roll is strictly greater than the number on the second roll. Anu wins and gets to watch Wimbledon. What is the probability that Anu will get to watch Wimbledon?

a. 7/16
b. 9/16
c. ⅜
d. ½

Answer: ⅜

4. An electrical circuit has:
   - A power source
   - A resistor R and;
   - Three parallelly connected resistors each of value 3R.

All these connected in series. If the current flowing through the circuit is five amperes, what will be its value, if R is doubled and each of 3R is halved?

Answer: 4 amps

5. Twin brothers Lava and Kusha wrote the TCS NQT test. While Lava scored 45% and got 4 marks below the cut off, Kusha scored 60% and got 8 marks above cut-off and got selected for interview. What was the maximum marks in the test?

Answer: 80

6. Ms Trikonapriya wants to decorate her abode's frontage with a triangular lawn. The two sides of this lawn are of five and six meters, subtending an angle of 30 degrees. If the lawn maintainer charges Rs.10 per square meter, how much would Trikonapriya pay to him for the entire lawn? You answer should contain only the numeric value.

Answer: 75

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7. Bhaskar wanted to send some documents to Shakuntala. He had her address without the 6-digit pin code. He didn't want to risk sending documents without pin code. So, he called Shakuntala. She did not give the pin code directly, she said, "The first four digits are 1910 in hexadecimal and the last four digits are 3177 in octal". Bhaskar could courier the documents now. What is her pin code?
Answer: 641663

8. If it takes 10 3D printers 10 minutes to print 10 models, how long will it take 100 printers to print 100 models?
Fill the correct answer in minutes. ___

Answer: 10minutes

9. Eighty cricket balls have been packed equally into two bags A and B. 20 of these balls have been signed by Kapil Dev - some of the signed balls are in bag A and the rest in bag B. One bag is selected and a ball is randomly picked from that. Given that the ball is signed, the probability that it is from Bag B is computed to be ⅔. If bag A is twice more likely to be selected than Bag B, how many of the signed balls are in Bag B?
Answer: 16

10. In the normal course, Ravi, Sanjay and Mukund can each individually build a wall in 5, 8 and 10 days respectively. Due to difficult terrain and slushy conditions at the site, the individual time required for each to complete the work has increased by 20%, 25% and 50% respectively. How long will they take to build the wall if they work together?
a.   3 days
b.   4 days
c.   6 days
d.   2 and 6/17 days
Answer: 3 days

11. The difference between the ages of two of my three grandchildren is 3. My elder grandchild is three times older than the age of my youngest grandchild and my eldest grandchild's age is two years more than the ages of my two youngest grandchildren added together. How old is my eldest grandchild?
a.   10
b.   12
c.   15
d.   13
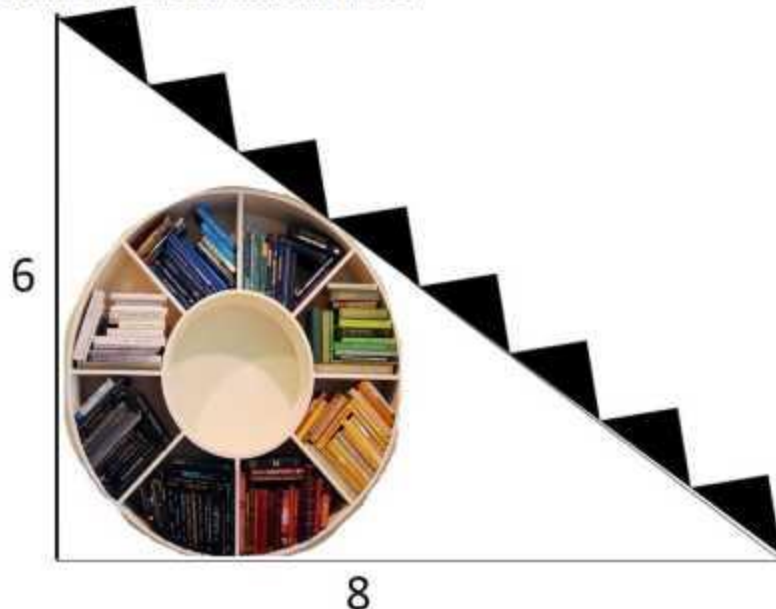Answer: 15

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12. If company A sells a service for Rs. 50 per hour then which of the following could be a revenue function for company A?

a. $R(t) = 50*t$
b. $R(50) = 50+t$
c. $R(t) = 50 +t*t$
d. $R(t) = 50 + t$

Answer: 50*t

13. There is a circular bookshelf under a stair in a Govt. library. The wall is 6 ft. height, the distance of the base of the stairs from the corner of the room is 8ft. What is the radius of the circular bookshelf in feet?

6

8

A.   1
B.   3
C.   2
Answer: 3

14. Your friend places 100 cards in a row, one of which contains the Jack of Clubs that you need to guess. You pick the card at position 15. The host removes all the cards except the card chosen by you at position 15 and another card at position 87. He now says, "One of these two cards is the Jack of Clubs". What is the probability that the card is at position 87?

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a.   0.01
b.   0.5
c.   0.98
d.   0.99
Answer: 0.99

15. The difference between the ages of two of my three grandchildren is 3. My eldest grandchild is three times older than the age of my youngest grandchild, and my eldest grandchild's age is two years more than the ages of my two youngest grandchildren added together. How old is my eldest grandchild?

a.   10
b.   12
c.   15
d.   13
Answer: 15

SLOT 1 –

1. In a country, 60% of the male citizen and 70% of the female citizen are eligible to vote. 70% of the male citizens eligible to vote voted, and 60% of female citizens eligible to vote voted. What fraction of the citizens voted during the election?
   a. 0.49
   b. 0.42
   c. 0.48
   d. 0.54

Answer: 0.42

2. A lady had some socks and hats in her closet - 17 blue, 47 red, and 24 yellow. The light are out and it is totally dark. In spite of the darkness, she can make out the difference between a hat and sock. She takes out an items out of the closet only if she is sure that it is a sock. How many socks must she take out to make sure she has two socks of each colour?
   a. 73
   b. 64
   c. 57
   d. 55

Answer: 73

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3. In function P(x,y) = 85x - (50y + 150000). What value indicates the increase in P that corresponds to increase in x, when y is kep a constant?
a. 85
b. 135
c. 35
d. 50

Answer: 85

4. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through.
 a. 155 degree
 b. 145 degree
 c. 160 degree
 d. 150 degree

Answer: 155 degree

5. Ram Speaks truth 40% of the time and Laxman speaks truth 60% of the time. Percentage of cases Ram and Laxman are likely to contradict each other in stating the same fact is_____:

Answer: 52%

6. Dimensional analysis plays an important and useful role in physics. Mass is denoted by M, length by L and time by T. So, momentum of a particle, which is a product of its mass and velocity has a dimension of MLT(velocity is distance/time which is length/time). In a given physical education, the left hand side and right hand side must have the same dimensions.

Kinematic viscosity (k) of a fluid is a measure of its resistive flow under gravity's influence. It's given by the equation.
 k=n/d where
 n is dynamic viscosity; its dimension is Force Time / Area
 d is density (mass/volume)
What's the dimension of kinematic viscosity?
a. $L^{-2}T^{-2}$
b. $L^{-2}T$
c. LT^{-2}
d. L^2T^{-1}

Answer: L^2T^{-1}

7. In function P(x,y) - 85x-(50y+150000).What value indicates the increase in P that corresponds to an increase in x, when y is kept constant?

FACE

a. 85
b. 135
c. 24
d. 50
Answer: 85

8. Uma has 50 red and 50 blue balls. She has two bowls with her. She has to distribute the balls in these two bowls in such a way that none of the bowls are left empty. If one were to choose one of the two bowls at random and them randomly draw a ball from it, the probability of the ball being red is maximized. After this distribution, there will be a total of _____ balls in the bowl with a larger number of balls.
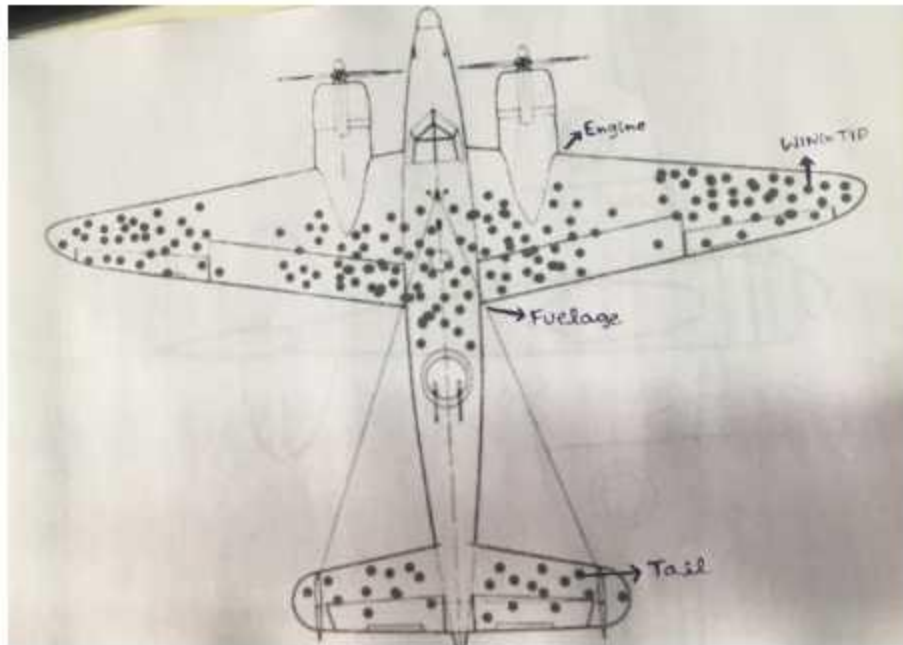Answer: 99

9. Bhaskar called his friend Shakuntala to celebrate his wedding anniversary. Shakuntala reached the street where he was living but forgot the door number. She called baskar for his door number. Being a geek in Maths he didn't give the door number directly. But told this " It is the middle number of the three numbers where the difference between first and second numbers is same as that between second and third. The product of first and last is 273 and sum of all three is 51." Shakuntala reached his house on time. His door number is?
Answer: 17

10. A Volvo bus from Chennai to Bangalore has 5 stops in between. At each stop half of the people will get down. After reaching Bangalore there are only 2 people left out. How many people are there in the bus at starting?

Answer: 64

11. The figure below depicts the damage done to aircrafts that had returned their base from missions in World war 2. The bullet holes per square foot in the Tail, Wingtips, Fuselage, and Engine are 1.1, 1.5, 1.8, and 0.2 respectively. Where does the airforce need to primarily reinforce the aircraft to minimize losses to enemy fire and to maximize their return home?

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Answer: Engine

12. There is a horse and a saddle. The sum of their cost is Rs.1100 the cost of the horse is Rs.1000 greater than saddle. What is the cost of saddle?
Answer: Rs. 50

Programming Logic –

SLOT 2 –
1. What is the output of the following Java program?

```java
public class MyThread extends Thread
{
        public void run()
        {
                System.out.println("Before");
                this.stop();
                System.out.println("After");
        }
public static void main (String[]args)
        {
                MyThread a=new MyThread();
```

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```
        a.start();
    }
}
Answer: Before
```

2. What is the value of **result** in the following C program?

```
int a = -10, b = -5, flag = 1, result = 0, i;
int x = abs(a); int y = abs(b);
for(i=1; i<=x; i++)
        result + =y;
if((a>=0 && b<0) || (a<0 && b>=0))
        Flag = -1;
result *= flag;
Answer: 50
```

3. In a class diagram, there is an arrow that starts at A and points at B. It means:
a.   A is the parent class of B
b.   B is the parent class of A
c.   A and B are loosely coupled
d.   A and B are tightly coupled
Answer: B is the parent class of A

4. What is the length of the string displayed by the following program?

```
#include <iostream>
using namespace std;
string do_something(string s)
{
        char char_array[]=";,.";
        size_t p1=s.find_first_not_of(char.array);
        size_t p2=s.find_first_of(char_array,p1);
        return s.substr(p1,p2-p1-1);
}
Answer: 13
```

5. What is the value of **maximum,** if the following segment runs to completion?

```
#include<limits.h>
int main()
{
int i=0, maximum = INT_MAX;
        Int numbers[] = {923, 948, 988, 981, 167, 899, 200, 910, 999};
```

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```
while(i<sizeof(numbers)/sizeof(numbers[0]))
    {
if (maximum<numbers[i]) maximum=numbers[i]; i++;
}
}
```

Answer: 2147483647

6. The **for** loop below computes **97+94+91+...+4.**
Replace the question mark (???) appropriately to complete the code snippet.

```
int i = 97, sum;
for (sum = 0; i > = 4; i = ???) sum += i;
```
Your answer should not contain any blank space.

Answer: i-3

7. What's the output of the following program?

```
#include<cctype>
#include<iostream>
#include<algorithm>
using namespace std;
bool which (char c) {return isspace(c);}

int main()
{
char s[] = "How far is Chennai?";
char *p1 = s:
char *p2 = s + sizeof(s)/sizeof(char);
p2 = remove_if(p1,p2,which);
for(char *p = p1; p! = p2; p++)
cout << *p;

}
```

Answer: Howfarischennai?
8.

SLOT 1 –

1. What is the output of the following Java program?

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```
Class Super
{
Static String greeting() {return "Goodnight";}
String name() {return "Ram";}
}
Class Sub extends Super
{
Static String greeting () {return "Hello";}
String name() {return "Bheem";}
}
Public class Test
{
Public static void main {String[]args)
{
Super s=new Sub();
System.outprintln(s.greeting()+","+s.name();
}
}
```
Answer: Good night Bheem

2. What is the value of result in the following C Program?
```
Int a-17, b=5, flag=1, result;
int x=abs(a),int y=abs(b);
for(result=0|x>y;result++)
x=y;
if((a>=0&&b<0)||(a<0&&b>=0))
flag=1;
result*=flag;
```

Answer: 3

3. The function pallap() defined below takes a string as an argument and returns a boolean value.

```
bool pallap(string pinput)
{
        ispal = true
        i = 0
        j = length(pinput) - 1
        While (i < j>
{
```

FACE

```
        If (pinput(i) != pinput(j))
        {
                ispal = false
        }
        i = i + 1
        j = j + 1
}
return ispal
}
```

In the above function != indicates "is not equal to".
If redder = pallap("redder), stressed = pallap("stressed = pallap("stressed") and
party_trap = pallap("party_trap") then

Answer: Redder is true stressed is false party_trap is false

4.
```
#include<algorithm>
using namespace std;
class SubFunction
{
public:
        bool operator()(const string & a, const string & b) {return a>b;}
};
int main ()
{
        vector <string> v={"abc","def","ghi","jkl","mno","pqr","stu",vwx","yz"};
        sort{begin(v),end(v),SubFunction()};
        copy(begin(v),end(v),ostream_iterator<string>(cout,"\n"));
}
```

Answer:
yz
vwx
stu
pqr
mno
jkl
ghi
def
abc

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5. What is the value of minimum, if the following segment runs to completion?

```
#include<limits.h>
int main()
{
        int i =0, minimum = INT_MIN;
        int number[] = {23, 48, 98, 1, 6, 8, 200, 10},
        while (i < sizeof(numbers)/sizeof(numbers[0])) {
                if(minimum > numbers[i]) minimum = numbers[i]; i++;
        }
}
```

Answer: Minimum value is INT_MIN = -2147483647

6. The picture represents a parse free generated according to a specified grammar for the following sentence.
"Computing power doubles every two years"
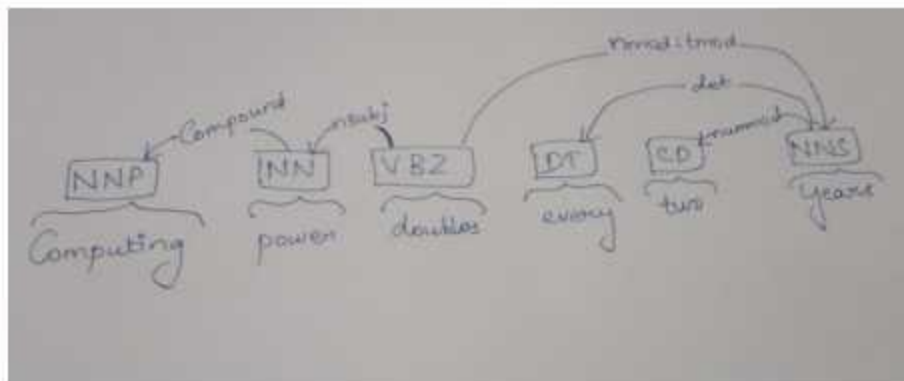
How many leaf nodes are there for this tree?
a.   4
b.   3
c.   2
d.   5

Answer is 4.

7. What is the fourth line of output in the following C++ programme?

```
#include<vector>
#include<iterator>
```

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```
#include<iostream>
#include<algorithm>
using namespace std;
Class SubFunction
{
public:
        bool operator()(const string &a, const string &b) {return a>b:}
};
int main()
{
        vector<string> v = {"abc", "def", "ghi", "jkl", "mno", "pqr", "stu", "vwx", "yz"};
        sort(begin(v), end(v), SubFunction());
        copy(begin(v), end(v), ostream_iterator<string>(cout, "\n"));
}
```

Answer: fourth line of the output is pqr

8.
```
{
        // In the following initialization sequence, English character 'O' is not used
        String s[] = {"1234", "56789", "234a", "189b1", "089*3" };
        for (int i = 0; i < sizeof(s)/sizeof(s[0])); i++{
                auto pos = s[i]. find_first_not_of("0123456789"); // 0 is numerical zero
                If (s[i]. length() == 4 && pos == string::npos) continue;
                else cout << "Invalid guess!\n";
        }
}
```

Answer:
Invalid Guess!
Invalid Guess!
Invalid Guess!
Invalid Guess!

Coding

SLOT 2 –
Oddly even
Given a maximum of 100 digit numbers as input, find the difference between the sum of odd and even position digits.

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Input #1:
 4567
Expected output:
2

Explanation
Sum of odd position digits 4 and 6 is 10. Sum of even position digits 5 and 7 is 12.
The difference is 12-10=2.

Input #2:
9834698765123
Expected output:
1

Input #3:
5476
Expected output:
2

Correct code using Java:
```java
import java.util.Scanner;

public class Ex2 {
public static void main(String[] args) {
        Scanner s=new Scanner(System.in);
        long a=s.nextLong();
        long temp=a;
        int flag=0,even=0,odd=0;
        String aa=String.valueOf(temp);
        int len=aa.length();
        while(a>0)
        {
                long rem= a%10;
                a/=10;
                if(len%2==0)
                {
                        if(flag==0)
                        {
                                even+=rem;flag=1;
                        }
                        else if(flag==1)
                        {
```

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```
                    odd+=rem;flag=0;
            }

        }
        else
        {
            if(flag==0)
            {
                odd+=rem;flag=1;
            }
            else if(flag==1)
            {
                even+=rem;flag=0;
            }
        }

    }
    int sum=odd-even;
    if(sum<0)
    {
        sum=-sum;
    }
    System.out.println(sum);
}
}
```

SLOT 1 –

NOTE: Once you have selected your programming language, click on the checkbox beside it to start coding.

Word is key

Problem statement
One programming language has the following keywords that cannot be used as identifiers:
break, case, continue, default, defer else, for, func, goto, if, map, range, return, struct, type, var

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Write a program to find if the given word is a keyword or not

Example-1
Input
defer
Expected Output
defer is a keyword

Example-2
Input
While
Expected Output
while is not a keyword

Correct code using C–

```c
#include<stdio.h>

#include<string.h>

int main()

{

    char str[16][10]={"break","case","continue","default","defer","else","for","func","goto","if","map","range","return","struct","type","var"};

    char input[1][20];

    int flag = 0;

    scanf("%s",input);

    for(int i = 0;i<strlen(str);i++)

    {

        if(strcmp(input,str[i])==0)

        {

            flag = 1;

            break;

        }

    }
```

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```
        }
        if(flag == 1)
        {
                printf("%s is a keyword",input);
        }
        else
        {
                printf("%s is not a keyword",input);
        }
}
```

Correct code using Java –

```java
import java.util.Scanner;

public class Ex1 {
public static void main(String[] args) {
        String[]
a={"break","case","continue","default","defer","else","for","func","goto","if","map","r
ange","return","struct","type","var"};
        String b;int flag=0;
        Scanner s=new Scanner(System.in);
        b=s.next();
        for(int i=0;i<10;i++)
        {
            if(a[i].equalsIgnoreCase(b))
            {
                flag=1;
            }
        }
        if(flag==1)
        {
            System.out.println(b+" is a keyword");
        }
        else{
            System.out.println(b+" is not a keyword");
```

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```
        }
    }
}
```

Correct code using Python –

```python
keyword ={"if","else","break","case","goto","continue","return","range"}
inp = input()
if inp in keyword:
    print("Given string is keyword")
else:
    print("not a keyword")
```

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