(Thu) 21/5/20 CL-X

EVS, CH-7 Topic (Gasohol)

Home Assignment.....

1) What is gasohol?
2) Why is it better to use gasohol in countries with colder climates?
3) Is gasohol renewable or nonrenewable?
4) Is gasohol a biofuel?

.....(To be continued next class.....)

DREAMLAND SCHOOL

Class : X

Subject : ART Paper 4

Create an attractive design for a curtain in the rectangle of 12 inches by 9 inches.

CLASS – 10

COMPUTER APPLICATION

ARRAYS

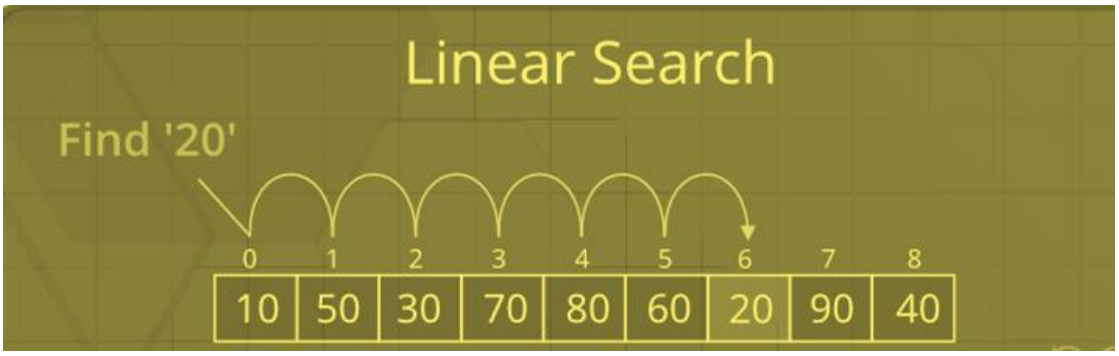
Searching Algorithms are designed to check for an element or retrieve an element from any data structure where it is stored. Searching is one of the most common actions performed in regular business applications. This involves fetching some data stored in data structures like Arrays.

Linear Search:

Linear or Sequential Search is the simplest of search algorithms. It is used to search a key element from multiple elements. It involves sequential searching for an element in the given data structure until either the element is found or the end of the data structure is reached.

Algorithm:

- Step 1: Traverse the array
- Step 2: Match the key element with array element
- Step 3: If key element is found, return the index position of the array element
- Step 4: If key element is not found, return -1



Example Program:

```
 class Example
   {
public static int linearSearch(int[] arr, int key){
        for(int i=0;i<arr.length;i++)
            {
            if(arr[i] == key)
                 {
                return i;
            }
        }
        return -1;
    }
    public static void main()
          {
        int[] a1= {20,30,40,70,90};
        int key = 40;
        System.out.println(key+" is found at index: "+linearSearch(a1, key));

    }
}
```

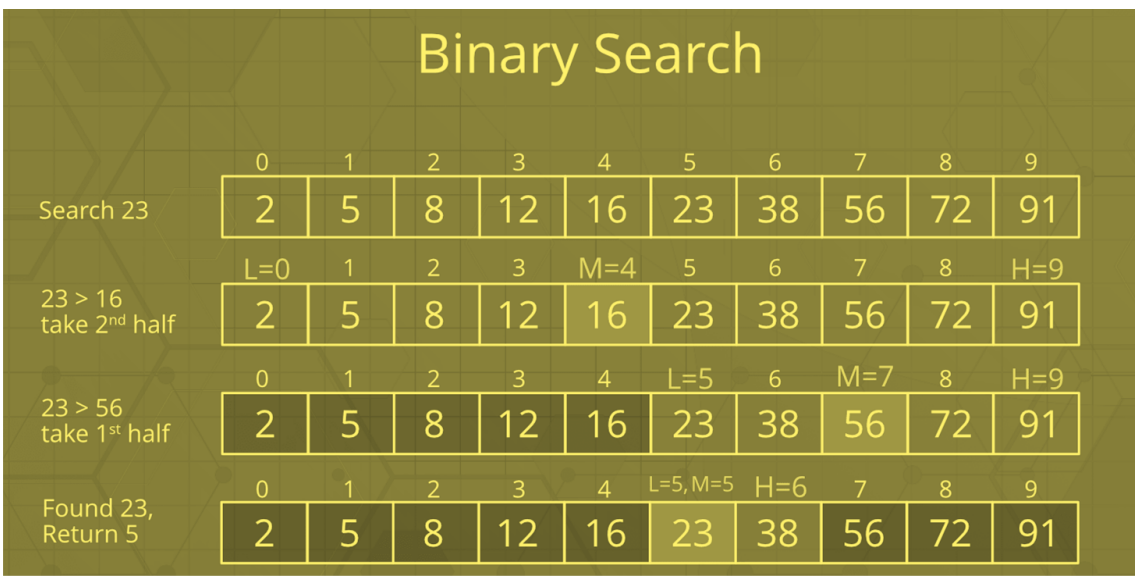
Output:

50 is found at index: 2

Binary Search:

Binary search is used to search a key element from multiple elements. It is faster than linear search. In case of binary search, search a sorted array by repeatedly dividing the search interval in half. Begin with an interval covering the whole array. If the value of the search key is less than the item in the middle of the interval, narrow the interval to the lower half. Otherwise narrow it to the upper half. Repeatedly check until the value is found or the interval is empty.

Example:



We basically ignore half of the elements just after one comparison.

1. Compare x with the middle element.
2. If x matches with middle element, we return the mid index.
3. Else If x is greater than the mid element, then x can only lie in right half subarray after the mid element. So we check for right half.

4. Else (x is smaller) keep checking for the left half.

Example Program:

```
class Example2
{
 public static void binarySearch(int arr[], int first, int last, int key)
    {
   int mid = (first + last)/2;
   while( first <= last )
       {
      if ( arr[mid] < key )
         {
        first = mid + 1;
          }
     else if ( arr[mid] == key )
          {
        System.out.println("Element is found at index: " + mid);
        break;
      }
      else
       {
         last = mid - 1;
      }
      mid = (first + last)/2;
       }
   if ( first > last )
        {
      System.out.println("Element is not found!");
```

```
  }
 }
 public static void main(String args[])
{
        int arr[] = {10,20,30,40,50};
        int key = 30;
        int last=arr.length-1;
        binarySearch(arr,0,last,key);
 }
}
```

Output:

Element is found at index: 2

<u>ASSIGNMENT V (PART – 2)</u>

4. Explain binary search.
5. Write the linear search algorithm.

Mathematics

Class-X

Ratio and Proportion

Date:-21.05.20

Q1.

(i) The sides of a triangle are in the ratio 7 : 5 : 3 and its perimeter is 30 cm. Find the lengths of sides.

(ii) If the angles of a triangle are in the ratio 2 : 3 : 4, find the angles.

Ans-

(i) Perimeter of a triangle = 30 cm.

Ratio among sides = 7 : 5 : 3

Sum of ratios 7 + 5 + 3 = 15

Length of first side $= 30 \times \frac{7}{15} = 14\text{cm}$

Length of second side $= 30 \times \frac{5}{15} = 10\text{cm}$

Length of third side $= 30 \times \frac{3}{15} = 6$ cm.

$\therefore$ Sides are 14cm, 10cm, 6 cm

(*ii*) Sum of angles of a triangle = 180°

Ratio among angles = 2 : 3 : 4

Sum of ratios = 2 + 3 + 4 = 9

$\therefore$ First angle $= 180^\circ \times \frac{2}{9} = 40^\circ$

Second angle $= 180^\circ \times \frac{3}{9} = 60^\circ$

Third angle $= 180^\circ \times \frac{4}{9} = 80^\circ$

$\therefore$ Angles are 40°, 60° and 80°

Q2.

Three numbers are in the ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$ If the sum of their squares is 244, find the numbers.

Ans.

The ratio of three numbers $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$

$= \frac{6:4:3}{12}$

$= 6 : 4 : 3$

Let first number 6x, second 4x and third 3x

∴ According to the condition

$(6x)^2 + (4x)^2 + (3x)^2 = 244$

$\Rightarrow 36x^2 + 16x^2 + 9x^2 = 244$

$\Rightarrow 61x^2 = 244$

$\Rightarrow x^2 = \frac{244}{61} = 4 = (2)^2$

$\therefore x = 2$

∴ first number $= 6x = 6 \times 2 = 12$

second number $= 4x = 4 \times 2 = 8$

and third number $= 3x = 3 \times 2 = 6$

Q3.

(i) A certain sum was divided among A, B and C in the ratio 7 : 5 : 4. If B got Rs 500 more than C, find the total sum divided.

(ii) In a business, A invests Rs 50000 for 6 months, B Rs 60000 for 4 months and C, Rs 80000 for 5 months. If they together earn Rs 18800 find the share of each.

Ans.

(i) Ratio between A, B and C = 7 : 5 : 4

Let A's share = 7x

B's share = 5x

and C's share = 4x

Total sum = 7x + 5x + 4x = 16x

Now according to the condition,

$5x - 4x = 500 \Rightarrow x = 500$

$\therefore$ Total sum = $16x = 16 \times 500 =$ ₹8000

(*ii*) A's 6 months investment = ₹50000

$\therefore$ A's 1 month investment

= ₹50000 × 6 = ₹300000

B's 4 month's investment = ₹60000

$\therefore$ B's 1 month investment

= Rs. 60000 × 4 = ₹240000

C's 5 months investment = ₹80000

$\therefore$ C's 1 month investment

= ₹80000 × 5 = ₹400000

$\therefore$ Ratio between their investments

= 300000 : 240000 : 400000

= 30 : 24 : 40

Sum of ratios = 30 + 24 + 40 = 94

Total earnings = ₹18800

$\therefore$ A's share $= \frac{30}{94} \times 18800 =$ ₹6000

B's share $= \frac{24}{94} \times 18800 =$ ₹4800

C's share $= \frac{40}{94} \times 18800 =$ ₹8000

Home Work-

Q1.

(i) In a mixture of 45 litres, the ratio of milk to water is 13 : 2. How much water must be added to this mixture to make the ratio of milk to water as 3 : 1 ?

(ii) The ratio of the number of boys to the number of girls in a school of 560 pupils is 5 : 3. If 10 new boys are admitted, find how many new girls may be admitted so that the ratio of the number of boys to the number of girls may change to 3 : 2.

Q2.

(i) The monthly pocket money of Ravi and Sanjeev are in the ratio 5 : 7. Their expenditures are in the ratio 3 : 5. If each saves Rs 80 every month, find their monthly pocket money.

(ii) In class X of a school, the ratio of the number of boys to that of the girls is 4 : 3. If there were 20 more boys and 12 less girls, then the ratio would have been 2 : 1, How many students were there in the class?

Class X

21.05.2020

History

Subordinate Courts

In every State, besides the High Court there are number of judicial courts to administer justice. These courts function under the complete control and supervision of the High Court.

A State has got exclusive legislative competence to determine the constituent organisation and territorial jurisdiction of all courts subordinate to the High Court. The organisation of subordinate courts throughout the country is generally uniform.

Structure and Composition

The organisation and structure of the Subordinate Court is generally uniform throughout the country. For judicial administration purpose, every State is divided throughout the country. For judicial administration purpose, every State is divided into a number of districts each under the jurisdiction of a District Judge. Every district has Civil Courts, Criminal Courts and Courts of Revenue.

Civil Courts

Civil Courts exercise jurisdiction in the cases related to land, property and money transactions, arbitration, marriage, divorce and cases involving a will, etc.

These courts are graded in the following manner:

1. **Court of District Judge** decided both civil and criminal cases and is the highest court of the District. When a Judge decides civil cases, he is called as a District Judge and when he decides criminal cases, he is called Session Judge. In cases above Rs.5,000, there is a provision to appeal against the decision of the District Judge. In order to be a

District Judge or an additional Judge a person should be an advocate for 7 years standing or an official in the judicial service.

2. **Court of Civil Judge** hears cases involving Rs. 2,000 to Rs. 5,000.
3. **Munsif's Court** hears cases involving amount less than Rs.2,000.

Term of Office

The District Judges are appointed by the Governor in consultation with the Judges of the High Court of the concerned State. All other judges are appointed through competitive examinations held by State Public Service Commission.

The District Judges exercise administrative control over all Civil Servants in the district.

Criminal Courts

It exercises jurisdiction in cases related to murder, robbery, theft, assault, etc. Criminal courts are broadly classified as:

- **Sessions Court** : It is the highest Criminal Court of the district. It deals with cases concerning robbery, dacoity and murder. It can award sentence upto life imprisonment or death sentence. But it is mandatory, that a death sentence must be confirmed by the High Court before its execution irrespective of whether an appeal is made to the High Court or not.
- **Court of Chief Metropolitan Magistrate** deals with less serious offences and can award fine of Rs.5,000 and sentence upto 7 years imprisonment.
- **Court of First Class Magistrate** can award sentence upto 3 years imprisonment or fine of Rs.5,000 or both.
- **Court of Second Class Magistrate** can award sentence not more than 2 years or impose a fine of Rs.1,000 or both.
- **Court of Third Class Magistrate** can award sentence upto 1 month of simple imprisonment or a fine upto Rs.5,000 of both. It deals with criminal cases involving simple individual quarrels or rioting.

Courts of Revenue

These courts deal with cases relating to the maintenance of land records and assessment and collection of Land Revenue. Some revenues are as follows:

1. Board of Revenue
2. Commissioner's Court
3. Collector's Court
4. Tehsildar's Court
5. Naib Tehsildar's Court

Distinction between Court of the District Judge and Sessions Court

1. The Court of District Judge is the highest Civil Court of the district, whereas Sessions Court is the highest Criminal Court of the district.
2. The presiding officer is called as District Judge, while the Sessions Court is presided by a sessions judge.
3. The District Judge acts as a Deputy Commissioner or District Judge and in this capacity he maintains law and order and supervises the collection of revenue and taxes in the district, whereas sessions judge does not perform any administrative functions.

Lok Adalat

Lok Adalat is the people's court set-up on the recommendation of Justice PN Bhagwati under Legal Services Authorities Act, 1987. It is a legal forum to provide aid and justice to those, who are not in a position to engage lawyers or bear expenses of legal proceedings.

Dispute in these courts are settled in a spirit of harmony and compromise. The cases are settled informally and cordially with the involvement of conflicting parties. Lok Adalat solve cases, which are yet to go to any court.

Advantages of Lok Adalat

The advantages of Lok Adalat are as follows:

1. These adalats work in spirit of compromise and understanding, which result into both party's satisfaction.
2. These courts deliver fast and inexpensive justice. Any person can move to Lok Adalat by an application on a plain paper in a prescribed format.
3. Lok Adalats reduce workload of other courts enabling them to deal with more serious matters.

Scopes of Lok Adalat

The System of Lok Adalats has now become so popular that various Government departments began to hold Lok Adalats.

This court plays a significant role in the settlement of disputes between family and friends, the neighbors and minor cases of assault and injury. Weaker sections of society cannot afford the delay or the cost involved in the court procedures.

Family Courts

- The Family Courts Act, 1984 was enacted to secure speedy settlement of disputes relating to marriage and family affairs. The act provides for setting up of family courts in cities having population over 10 Lakh.
- On recommendation made by the Parliamentary Committee on Empowerment of Women, all State Governments/Union Territory Administration have been asked to set-up one family court in each district of the country.

Home Work

1. **What is Lok Adalat?**

2. **Mention the advantages of lok Adalat.**
3. **What is session court?**
4. **Discuss the difference between district judge and session court.**
5. **What is family court?**

DREAMLAND SCHOOL

PHYSICAL EDUCATION - CLASS 10 (2020-2021)

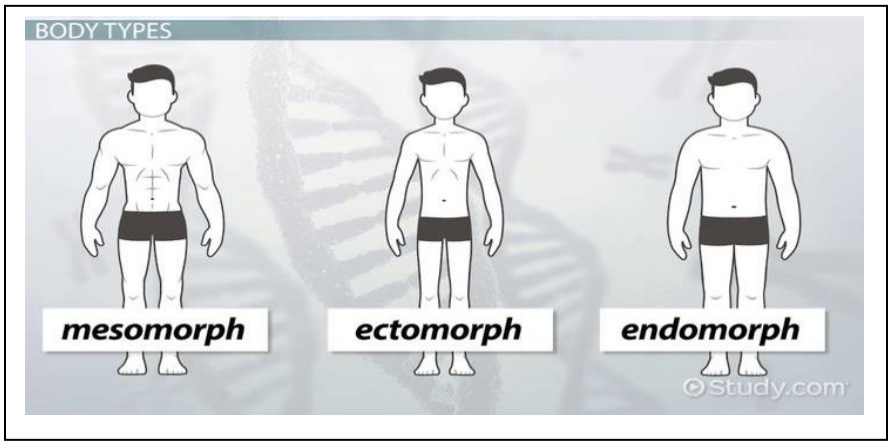
ASSIGNMENT

Date – 21/05/2020

CHAPTER 2 – BODY TYPES

BRIEF EXPLANATION –

- The physical makeup of one's body is called **body type.**
- Body types can be of basically 3 types in humans-
  1) Ectomorph
  2) Mesomorph
  3) Endomorph



- **Ectomorph** – they have the following characters-
  1) Skinny
  2) Small joints/ bone
  3) Long arms and legs
  4) Linear physique
  5) Small shoulders
  6) Lightly muscled
  7) Small chest and buttocks
  8) Low body fat (without exercising or following low calorie diets)
  9) Can eat anything they like without weight gain
  10) Fast and efficient metabolism
  11) Difficulty gaining weight
  12) Hyperactive
  13) Difficulty in gaining muscle mass.
  14) With age, even the super-fast metabolism of the ectomorph slows down and as a result, they often gain weight, since they are not used to exercising or watching their calorie intake.

15) Swimming, soccer, long distance running, marathon running, triathlons and cycling are the best options for people with the ectomorph body shape. Besides, ectomorphs can do well in basketball, tennis and gymnastics. Ectomorphs have the ability to gain strength. Experts advise the ectomorphs to train like performance athletes.

- **Mesomorph** – they have the following characters-
  1) Naturally lean
  2) Naturally muscular
  3) Naturally strong
  4) Medium size joints/ bones
  5) Wider at the shoulders than the hips – i.e. chest dominates over abdominal area
  6) Broad/ square shoulders
  7) Female mesomorph: defined hourglass figure
  8) Male mesomorph: V or rectangular shape
  9) Efficient metabolism
  10) Gaining muscle is almost effortless
  11) Losing fat is almost effortless
  12) Responds quickly to exercise
  13) They can easily do well at many sports activities from figure skating, artistic gymnastics, bodybuilding, soccer and rugby to hockey, swimming, rowing and triathlons. Mesomorphs need all-round training: cardio, strength, aerobic as well as flexibility training.

- **Endomorph** – they have the following characters –
  1) Smooth, round body
  2) Medium/ large joints/ bones
  3) Small shoulders
  4) Short limbs
  5) High levels of body fat (may be overweight)
  6) Body fat tends to settle in lower regions of body, mainly lower abdomen, butt, hips, and thighs (rather than being distributed evenly throughout body)
  7) Pear-shaped physique
  8) Can gain muscle easily, but tends to be underdeveloped
  9) Difficult to keep lost body fat off
  10) Lose weight slowly
  11) Have to work hard to lose weight
  12) Slow metabolic rate
  13) Attacks of tiredness/ fatigue
  14) Fall asleep easily
  15) The best sports for the people with the endomorph body shape are weightlifting, rugby, rowing, super-heavyweight boxing, wrestling, shot put, discus and hammer throwing.
  16) So this body shape is not usually suited for speed and agility, but strength activities like powerlifting can be a great option.

ASSIGNMENT 3

1) Differentiate between endomorph & mesomorph body type based on the type of sports they can take part in & metabolic rate.
2) What is body type?
3) State 4 points each of ectomorph & mesomorph body type stating the appearance.

MOUMITA GANGULY