Java.

DATE

Trade fairs are important for companies to present their products & get in touch with its consumers to get in touch with its consumers & Bussiness parties are such grandeurs. Trade pair Event was organised by confederation of national large scale Industry was attended on first day 'x' But as days proceed. the event gained good responses number of of people who attened the event on the second was twice the number of firstday unfortunately due to the heavy rain on the third day the number people who attended the first day was the half of the number Given the total number of people who have attend the event in the first 3days, find the number of people who attend the event of days.

Input format: 1) first line of the input is an integer value that corresponds to the total number of people.

2) output format first line of the out put should display the number of attendes of the day 1

Second line of the output should display the attendes on day 2

Third line of the output display the num of attendes on day 3.

Enter the total number of input & output 10500.

Number of attende on day 1 3000

Number of attendee on day 2 6000

number of atterdees on day 3 1500.

A) Start

Declare total, day1, attend day2, attend, day3.

day1 = x

day2 = 2x

day3 = x/2

Total = day1 + day2 + day3

printf : total

Stop.

PAGE

classmate

The prime functionality of an Event management System is Budgeting An Event management system should Estimates the total Expenses incurred by an event management System should Estimate the total Expenses incurred by an total Expenses incurred by an event & percentage rate

Nikhil the founder of pinetree wanted the functionality in a company Ampli Event manage System & requested your help in a program for the same. The program should get the branding Expens, food Expenses, teawel Expens & logistics Expenses as Input from the user & calculate the total expenses for an Event & percentage rate of each of these Expenses

Input format:

1) first input is double value that corresponding to Branded Expenses.
2) Second input is double value the corresponds to the Branding Expenses
3) Third input is double value that corresponds to the food Expenses
4) fourth input is double value that corresponds to logistic value

output format: first line of output should display the double value the corresponds the total Expenses of Event

Next line should display percentage rate of each Expenses

Refer sample input & output for formating specification

Enter Branding Expenses: 20,000
Enter teawelling Expenses: 40,000
Enter food Expenses: 15,000
Enter logistic Expenses: 25,000
Total Expenses: 1,00,000
Branding Expenses: 20.00%, Trawel Expenses: 40%
food Expenses %: 15% Logistic Expenses: 25%

DATE

Start

Sol: ~~Start~~ declare variable Branding, travel, food, logistics, total. Branding pecterage, travel perentage, food, leavel, logistics total, Branding perentage, Travelperentage, Foodpercentage. Logistic perentage

Read Enter Branding Experseses, travel Experses

Read travel Experses input

Read Enter food Experses input

Read Enter logistics Experses input

total = Branding + travel + food + logistics

Branding perentage = (Brandind / total) x 100.

Travel percentage = (travel / total) x 100

food perentage = (food / total) x 100

logistics percentage = (logistics / total) x 100

End

1) What is flowchart?

A) A flowchart is a diagramatic representation of an algorithem. A flowchart can be helpfull for both writing & explaing the program to others

2) What is algorithem?

A) writing a logical step by step method to solve the problem is called algorithem in other words, an algorithem is a procedure for solving problem is order to solve a mathematical of computer problem. This is the first step in process.

3) What is pseudocode?

A) Pseudocode is written in a format that is similar to structure of high level progeaming language proagram on the other hand. allows us to write code in a particular progeaming language

PAGE

DATE

1) Write an algorithem to Solve the area of the rectangle?

A) Start -> Algorithem

declare variable length, Breadth

read length, Breadth.

area ← length * Breadth.

print area

Stop

Pseudocode

Begin

declare length, Breadth, area.

display Enter length & Breadth.

read length, Breadth

area = length * Breadth.

print area;

End.

2) Write an algorithem & pseudocode to find the average of student given 3 Subjects

A) Start

declare variables Sub1, Sub2, Sub3 average

read Sub1, Sub2, Sub3

average ← (Sub1 + Sub2 + Sub3)/3

print average.

Stop.

Pseudocode

begin

declare Sub1, Sub2, Sub3.

display Enter 3 Subjects value

input Sub1, Sub2, Sub3.

Average = (Sub1 + Sub2 + Sub3)/3

Print average

End.

DATE

3) Write the algorithem to find the SI, Principal P, no of years & rate of interest (r)

A) input: p, n, r
SI = p*n*r/100

Algorithem

Start
declare p,n,r,SI
read p,n,r,SI
input p,n,r
SI = p*n*r/100
print SI
End.

pseudocode

Begin.
declare p,n,r,SI
display p,n,r
input p,n,r
SI = (p*n*r)/100
print SI
End.

Write an algorithem to find the Bigger of two numbers

A) Start
read two number n1, n2
if (n1 > n2)
print n1 is Bigger.
else
print n2 is Bigger
Stop.

4) Write an algorithem to get a value of $b^2-4ac=0$.

A) Input a,b,c
~~b*b-4a~~ b*b-4*a*c

A) pseudocode

Begin
Declare a,b,c,Q
input a,b,c
Q = b*b-4*a*c
print Q
End.

DATE

Pseudocodes for the perimeter of rectangle.

A) Begin declare
declare l, b, peri
read l, b
input l, b
peri ~~print~~ = 2(l+b)
Print peri
End

Pseudocodes for 1) area of sauare
P. 2) perimeter of a sauare
3) area of triangle
4) perimeter of triangle
5) Area of circle
6) perimeter of circle

1A) Pseudocode.
area of sauare.
Begin
declare S, area
input S.
area = S*S
print area.
End

2A) perimeter of Sauare
Begin.
declare S, peri
input S.
perimeter = 4*S.
print Perimeter.
End.

DATE

3A) area of teiangle.

```
Begin
  declare b,h,area
  input b,h
  area = 1/2*b*h.
  print area
End.
```

4A) peimeter of teiangle.

```
Begin declare
declare a,b,c,peri
input a,b,c
peri = a+b+c.
print peri
End.
```

5A) area of circle.

```
Begin.
declare , r, area.
input r
area = 3.14*r*r
print area.
End.
```

peimeter of circle.

6A)

```
Begin
declare r, peri
input r
peri = 2*3.14*r
print peri
End.
```

PAGE

classmate

DATE

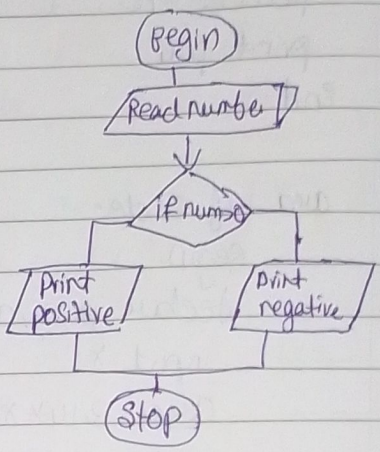
1) Write a pseudocode for the swaping of two numbers

A) pseudocode:-

```
Begin
declare the variable a, b, temp
read a,b // 1,2
temp = a  // temp=1
a=b       // a=b
b=temp    // b=1
print a,b // 2,1
End.
```

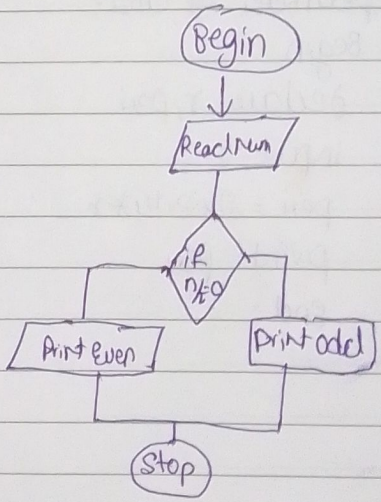
Write a pseudocode for its a positive & negative & draw flowchat

A)
```
Begin
declare num
read integer value into num
  if (num>0)
  print num is positive
  Else
  print num is negative
  End if
End
```



Write a Pseudocode for Even & odd & draw flowchat

```
Begin
    declare num
    read num.
    if (num%.2==0).
        display "even"
    else
        display "odd"
    End if
End.
```

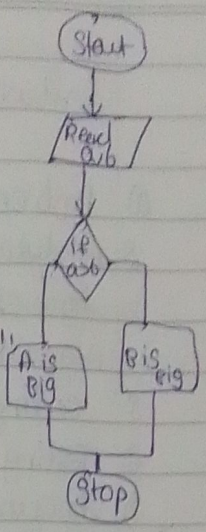


DATE

Pseudocode

Write a Biggest number among two numbers

A) Begin
declare num1, num2.
read num1, num2
if (num1 > num2)
display "num2 is ~~positive~~" greater"
else
display "num2 is greater"
End if
End.



Write the greater number among three numbers

num1 num2 num3
2 3 5

A) Begin.
declare num1, num2, num3.
read num1, num2, num3.
input number 1, num2, num3
nested if
if (num1 > num2)
num1 > num3.
display "num1 is greater";
else
display "num3 is greater"
else
if (num2 > num3)
display num2 is greater.
else
display num3 is greater.
End nested if
End.

DATE

Software development life cycle.

1. Problem definition.
2. Analysis & design
3. flow chart
4. Algorithem.
5. coding & implementation.
6. Testing & debugging
7. documentation.

Problem must be analysed small problem & it complex problem. if the small problem it can be solved independently If it is a complex problem is divided into subproblems called modules.

1) Algorithem: A step by step procedure to solve it given problem is known as algorithem

2) flowchart: It is a diagramatic pictorical representation. of Algorithem is called flow chart

A rectangle with ▭ & ⬭ is used to start & stop the process.

- ▱ → for input & output
- ▭ & ⬭ → start & stop.
- ▭ → Algorithem & logical operation.
- ◇ → are used in condition
- ○ → circles are used to join in different parts of an algorithem
- ↕ → arrows shows the directs.

DATE

5) coading & implementation: Algorithm & flowchart are coaved into computer language

6) Testing & debugging

Testing :- To find the errors in a program is called Testing

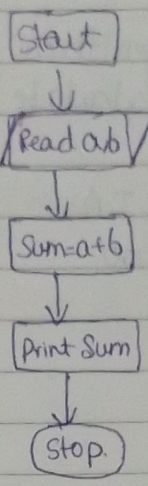
debugging :- The process of correcting the error is called debugging

compile errors, Syntax errors, Runtype errors are common in debugging.

Documentation :- checking all the process & and verify all the process are correct are not.

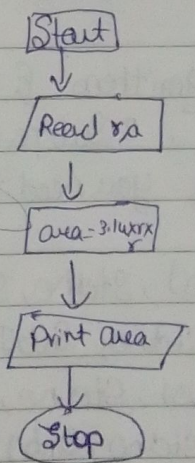
find the Algorithm & flowchart for Sum of two numbers

A) Start
Read a,b
Sum = a+b
print Sum
Stop



Write an algorithm & draw a flow chart to Enter radius of circle & find area.

A) Start
Read r
Area = 3.14 * r * r
print area
Stop



classmate

PAGE

DATE

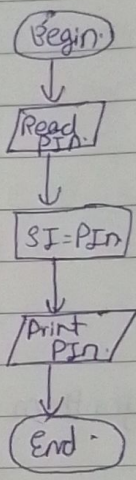
write an algorithem to draw a flowchart to find area & Circumference of rectangle

write an algorithem & draw a flowchart for Swaping of two number without using temporary variable

Subcat
read a, b
a = a+b
b = a-b
a = a-b
Print a =
print b
End Stop

write an algorithem & draw a flowchart of Principal interest, calculate SI

Begin
Read SI, P, I, N
SI = PIN/100
print SI
End



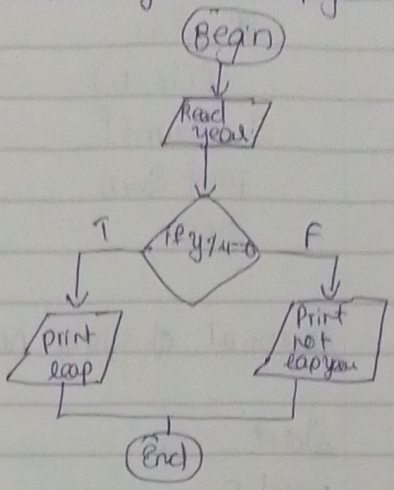
write an algorithem & flowchart to enter Student name. Student number, 3 Subjects of marks calculate total & avg Students finally you need to display Student details

A) Begin
Declare Stu(ID), Stdno, Sub1, Sub2, Sub3, total avg
read Stu(ID), Stdno, Sub1, Sub2, Sub3, total avg
display Stu(ID), Stdno, total avg
Input: Std ID, stdno, Sub1, sub2, Sub3, total avg
total = Sub1+sub2+Sub3
avg = total/3

print : Std Id
print : Std no.
print ~~avg~~ total
print : avg.
End.

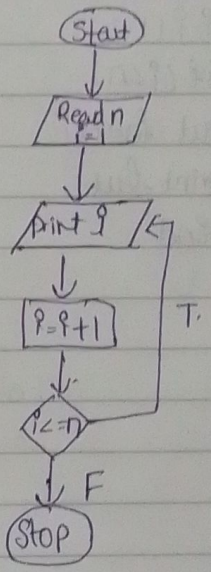
4) write an algorithm & draw a flowchat a year is leap year.

Start
Declare year.
Read year
Display year.
input year.
if (year % 4 == 0).
print it is a leap year.
Else
print it is not a leap year.
End.



write an algorithm & flow chart for n natural numbers

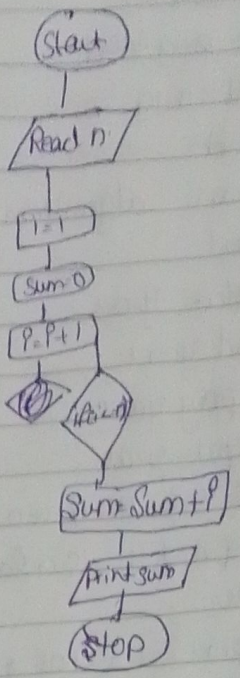
Start
Read n.
i=1
print i
i= i+1
if (i<=n) then goto step 4.
Else then goto Step 7
Stop.



DATE

Write & algorithm & draw a flow chart to find the sum of 'n' natural num

Start
Read n
i=1
n=0 Sum=0
if i=i+1
if(i<=n)
Sum=Sum+i
print Sum
Stop

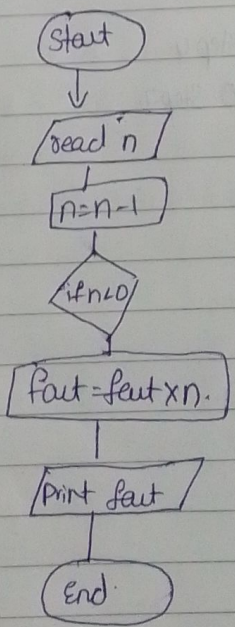


Factorial of given number.

Start
read n.
i=1 fact=1
i=1
i=i+1
if (i<n)
fact=fact*i
print fact
End.

(or)

Start
read n.
fact
n=n-1
if (n<0)
fact=fact*n.
print (fact)
End.



classmate

PAGE

DATE

To check the given number is prime number or not

1) 1) Start
2) Read n.
3) c=0 i=1
4) if (n%i==0) then c=c+1
5) i=i+1
6) if (i<=n) then goto step 4.
   else goto step 7
7) if (c==2) then goto step8
   else goto step9.
8) print "its prime number" goto 10
9) print "ist not a prime number"
10) Stop

To check the given number is palidrome or not

1) 1) Start
2) Read n
3) r=0, t=n
4) d=n%10
5) r=r*10+d
6) n=n/10
7) if (n>0) then goto step 4
   else goto step 8
8) if (t==r) then goto step9.
   else goto step10.
9) print " it is a palindrom number" goto 11
10) print " it is not a palindrome number"
11) Stop.

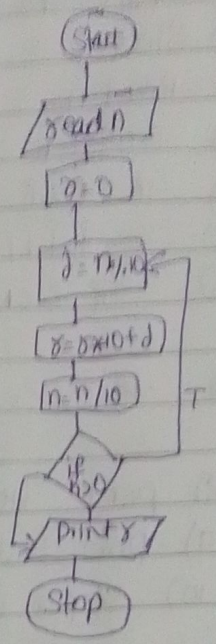
PAGE

classmate

DATE

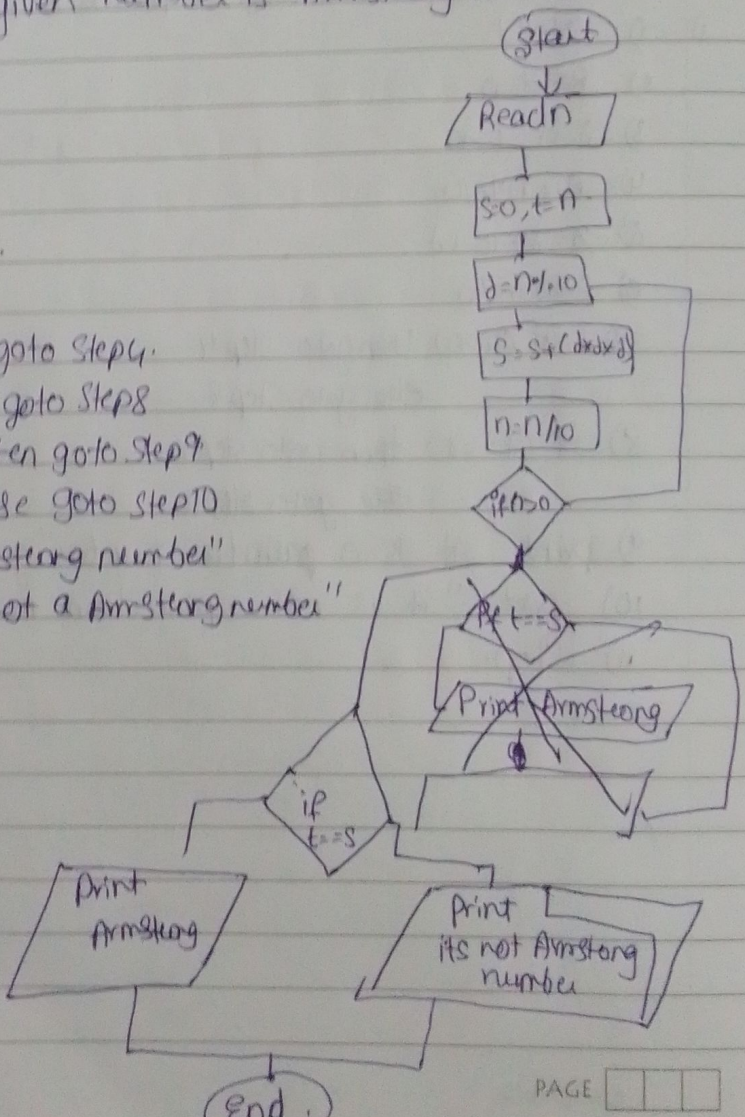
To print reverse of given number

Ans
Start
Read n
s = 0
d = n%.10
s = s*10+d
n = n/10
if (n>0) then goto step4
Else goto step8
print s
Stop.



To chect the given number is Armstrong number & not

Ans) Start
1) Read n
3) S=0, t=n
4) d = n%.10
5) S = S+(d*d*d).
6) n = n/10
7 if (n>0) then goto step4
Else goto step8
8 if (t==s) then goto step9
Else goto step10
Print "is Armstrong number"
print "it is not a Armstrong number"
Stop.



classmate

PAGE

DATE

To print Sum of given digit

Start

Read n

S=0, t=n

d=n%10

S=S+d

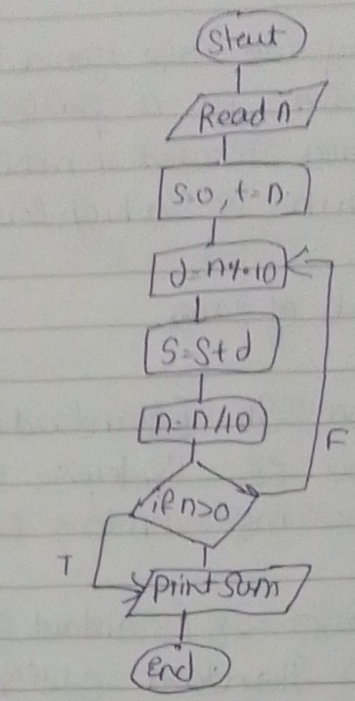
n=n/10

if (n>0) then goto Step4

else goto Step5

print Sum

Stop.



print Evennumber upto given number.

A) 1) Start

2) read n/10

3) i=1

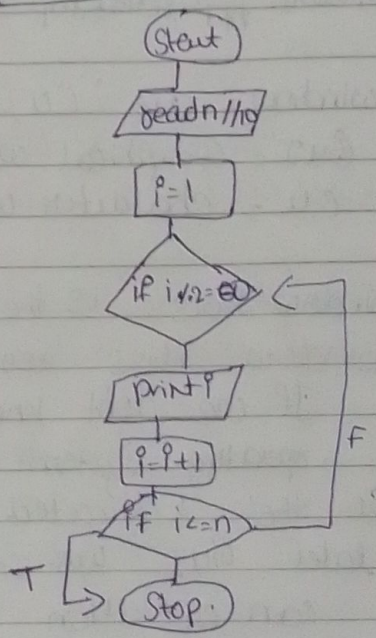
4) if (i%2==0)

5) print i

6) i=i+1

7) if (i<=n) then goto 4.

8) Stop else goto 8



classmate

PAGE

DATE

Why we use Java?

A) i) Java is a platform dependent (or) System dependent
ii) Java is used in mobile applicate, web application, App application
iii) Java is a high level language.

3) parts of Java.

Java SE [Standard edition] -> core java
Java EE [Enterpise edition] -> Advanced Java
Java ME [micro Edition]

1) Java SE [Standard Edition] or core Java.
(i) Standard Edition is core Java.
window App, desktop application is used.

1) windows are "CU, GUI" [Graphical user Interphase].
GUI : Graphical user Interphase
CU : character user~~phase~~ Interphase. or command user Interphase

window Dos is the first version of window.
window dos works on commands.
If we don't know the command we can't use operating System.
So the Educated person can only operate "CU"
later GUI was introduced & even uneducated person can operation.
window Dos are first version window.
[command mode Dos] is the latest version.

DATE

ii) Java Enterpise Edition

we can implement web Application.

We can use web Application is nothing But developing website

① Static website [wikipedia, pdf]

② Dyramic website [online website, Shoping website]

Static website doesn't peformation

Dyramic website changes dyramically peformation.

In dyramic website we are sending reauest then we can reply.

Servelets, JSP, PHP, ASP we have to learn to run websit dyramic website

HTML, CSS we have to learn to run Static website

iii) Java ME [micro Edition].

there are used to develop mobile Application.

Android language are used to run Android application

It run from [2002-2008]

But right now Java me to develop mobile application Andeop application & Android operating System

Java SE [Standard Edition] → window App's

CUI | GUI

Jave EE [Enterpise Edition] → web App's

Static	Dyramic
HTML, CSS	Servelts, JSP, PHP, ASP

Java ME [micro Edition] → mobile Apps

PAGE

DATE

History of Java

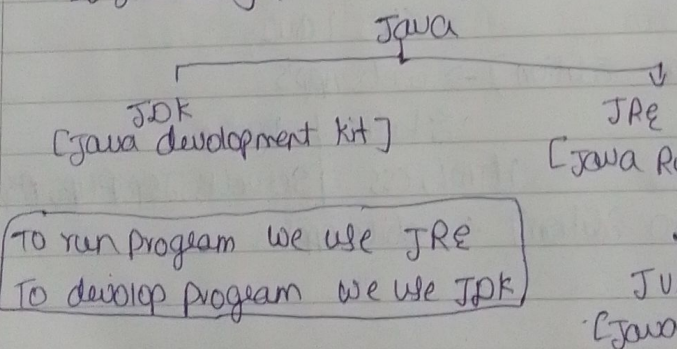
* "Dennis Riche invented 'c' language."
* "James Gosling is the founder of Java
* "11 Soft people work & develop Java.
* Java logo was coffe because they consume a lot of coffee So keep that symbol.

→ 1990 a company name Sun MicroSystem Inc. want to develop a project the aim of project is ~~Consumer devices~~ "consumer Electronic devices that could be controlled by "remote" So they develop a language called Java

→ 1991 January 11 member & James gosling developed a language called Java Before used c & C++ Here creak a Problem called platform dependent So it couldn't run on other problem.

→ Before keeping name "Java" they keep a name called "OAK" →platform independent Simple, OAK name is registered by other company. So they kept name called "Java"

"26 January 1996" they released Java.



To run program we use JRE
To develop program we use JDK

JVM: It is develop into machine develop language.

DATE

26 Jan 1996 → James Gosling [Invented Java].

↓

C & C++ → [Platform dependent]

↓

New language.

↓

OAK → [Platform independent; Simple]

↓

Java → [They changed name OAK to Java].

↓

JDK.

[Java development Kit

JRE

[Java Runtime Environment]

↓

JVM

[Java virtual machine].

⇒ Features of Java (or) Buzz words of Java.

1) Simple.

1) It is Simple Because it has to work on Electronic devices where less memory available.

2) The difficulted concepts C & C++ are ~~omitted~~ removed from Java. like pointers are used in ~~Je~~ C & C++ But not in Java.

3) Same Syntax of C & C++ in Java.

⇒ Robust → Strong [Robust means Strong].

① Excellent Exception Handeling → try, catch, throw, throws. finally

② memory management

Static | Dynamic → JVM.

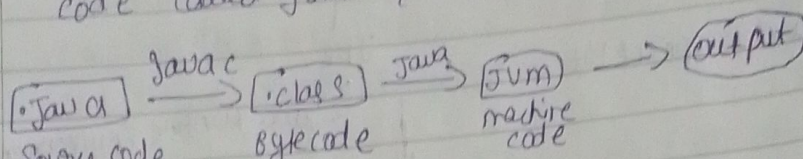
No Size | int a[];

new: it Keyword to allow allocating the memory

DATE

→ Simple: Java is a simple programming language. Rather than saying this the feature of Java we can state this aim Java we is to developed they wanted it to be simple.

1) When ever we ~~com~~ Save a file we can Save it as ".java" Source. when we .java is compile into ".class" By using "javac" is called Byte code
2) By using "java" Byte code is converted into machine code called JVM & then output.



→ System independence: Java Byte code is not machine independent It can be run only any machine with any processor & any operating System.

→ Secure: Security problem like ~~Ever~~ developing tampering. implementation & virus threats, be eliminated & minimised by using Java on internet

→ portability: If the program yields ~~a~~ same result on every machine then the program is called portability. Java program are portable. This is result of Java's System independence nature.

Low level language $\xrightarrow{\text{Assembler}}$ machine language

High level language $\xrightarrow[\text{Interpreter}]{\text{compiler}}$ machine language.

compiler:- Converts High level language to machine level language
2) check errors
3) check Entire program at a time

DATE

Interpreter: 1) Check line By line for a program.
2) Check the error line by line take more time.
Java programs are compiled to generate the Bytecode. This Byte code can be downloaded & interpreted. By the interpretor in JVM take any other language, only an interpreter or a compiler is used to execute program. But in Java we use both compiler & for the execution.

High performance: The problem with interpreter inside the JVM is that is slow. Because of this Java program used to run slow. To overcome this problem, along with interpreter, JavaSoft people have introduced "JIT (Just in Time) compiler, which Encharges the speed of execution so now in JVM both interpretor & JIT compiler coort together to run the program.

MIN_PRIORITY -> 1
MAX_PRIORITY -> 10
NORMAL-PRIORITY -> 5

Multithreaded: A thread represents an Individual process to execute a group of statements JVM uses several threads. to execute different Block to code. Creating multiple threads is called "multi threaded"

Scalability: Java Platform can Be implemented on a wide range of computer with varying levels of resources. For Embeded devices to mainframe computer. This is possible. Because Java is compact & platform independent

Dynamic: Before the development of Java, only Static text used to displayed in Browser. But when James Gosling demonstrated an animated atomic molecules where the ~~Arrays~~ rays are moving & Stretching the views were dumbstruck. This animation was done By using "applet program" which are dynamically interacting program on Internet

classmate PAGE

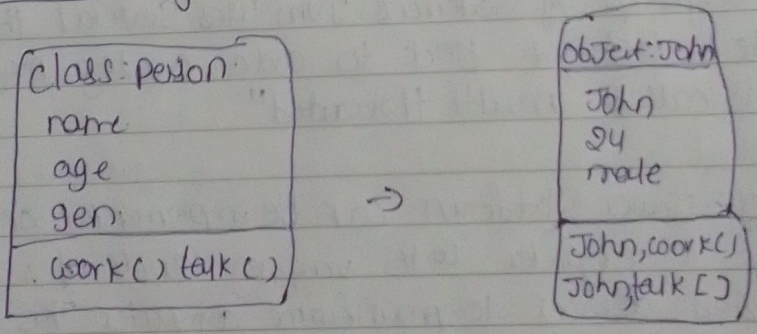
DATE

→ To manage the clients & Saver ftp, Tcp/IP, udp are used & Easily handled in Java.

Distributed: Information is distributed on various computer on a network using Java we can write program which capture information & distribute it to clients. This is because Java can be handled by protocol TCP/IP & UDP

Oops [Object oriented progeaming System]
Basic concept of oops
1) objects & classes
2) Encapsulation
3) Abstraction
4) Inheritance
5) Polymorphism

Object & classes
Object: It is a instance of class of An object is a real time Entity which is physically existing in the world.
Ex:- A person, Place, thing Etc
Classes: Agroup of objects are nothing but classes



objects: There are runtime Entities in an oops they may present a person, aplace Etc of data of any item they that our progeam has to handle
They may also represent user defined data.

Classes DATE

We must maintained that objects contained data & code to manipulate the data. The entire set of data & code of an object can be made the user defined data types such as class once a class is has been defined we can create any number of objects. Belong to class

Data Encapulation: It a mechanism that associates the code & data manipulation into a single unit & keep them safe from external interface. This is support by construct called class. The use of encapsulation is protected the number of classes. The data is possible not accessible to the outside and only these function which are wrapped in the class can access it. This insulation of data from direct direct access by the progeam is called data hiding.

Data Abstraction: The technique of creating new data that are well suited to application is known as data abstraction.

Data abstraction means we can combine the data structure together into & operation on the data structure together into a new abstraction data type. An abstract data type behaves just like data types that a not a part of language definition. They are created by programmers.

Inheritance: 1) It is a property which is used to extend the definition of an existing class. The extension can be done by declaring some other classes.

2) The class ie originaly present is called "base class" The class which is extented with the help of inheritance property. is called derived class.

A derived class always can access the number of base class we can base class never access the member of derived class.

DATE

Classes

We must maintained that objects contained data & code to manipulate the data. The entire set of data & code of an object can be made the user defined data types such as class once a class is has been defined we can create any number of objects. Belong to class.

Data Encapulation: It a mechanism that associates the code & data manipulation into a single unit & keep them safe from external interfere. This is support by construct called class. The use of encapsulation is protected the number of classes. The data is possible not accessible to the outside and only these function which are wrapped in the class can access it. This insulation of data from direct direct access by the progeam is called data hiding.

Data Abstraction: The technique of creating new data that are well suited to application is known as data abstraction.

Data abstraction means we can combine the data structure together into & operation on the data structure together into a new abstraction data type. An abstract data type behaves just like data types that a not a part of language definition. They are created by programmers.

Inheritance: 1) It is a property which is used to extend the definition of an existing class. The extension can be done by declaring some other classes.

2) The class ie diginaly present is called "base class" the class which is extented with the help of inheritance property. is called derived class.

A derived class always can access the number of base class we can base class never access the member of derived class.

DATE

The main purpose of inheritance is reli sability of defiretly

① Single inheritance
② multiple inheritance
③ multilevel inheritance
④ hierarchial inheritance
⑤ hybrid inheritance

polymorphism

1) the coord polymorphism is deived from the latin coord poly (many), morphs (forms)

2) polymorphism is nothing but the ability to access different implenertation of function wirg Same name

① compile time polymorphism [static polymorphism]
② Run time polymorphism [Dynamic polymorphism].