Lecture-1&2 (date-13,14)

1.what is Program?

Ans. Program is a set of instructions which we pass to the computer to done the particular task.

2.types of programming language:

1.low level language---0 and 1(binary/machine language)

2.intermidiate level language (assembly level language)

3.high level language

3.translators:

1.compiler---c,c++,sql,pl/sql.

2.interpreter---python,javascript.

3.assembler---compiler+interpreter

4.types of software:

1.system software(basic task)

- os,device drivers

2.application software(particular task)

- vlc,antivirus,music player

3.utility software

1.cam(computer aided manufacturing)

2.cad(computer aided designing)

---Frontend-->Html,css,javascript,react.js

Backend -- > Python /java/php/.net

Mern stack -- > Mongodb,express,react.js,node.js

Mean stack -- > mongodb,express,Angular,node.js

Application

Android -- > Android studio

Ios -- > Ios

Hybrid -- > Flutter + React Native

Python -- > Django /flask

Java -- > spring,boot,hibernet,serverless

Php --> Laravel

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https:www.amazon.in

security,address,domain

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http/https--- hyper text transfer protocol

ftp—file transfer protocol

tcp/udp-->

lecture-3 (date-15)

Sdlc(software development life cycle)

1.planning

2.analysis

3.design

4.implementation

5.testing

6.deployment

7.maintenance

Dfd(data flow diagram)

Flowchart

1.rounded corner rectangle-start/end

2.rectangle –process

3.diamond---decision

4.parallelogram-input/output

5.arrow-flow of control

Usecase diagram

Ascii(American standard code for information interchange)

Char -- dec – bin

A -Z → 65 -90

a-z →97-122

0-9→48 -57

A - 65 --

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tops@123--password

Lecture-5 (date-17)

C → 1972

C → compiler

C → pop (procedure oriented programming language)

C -→ linux

Data types:

1.premitive data types/primary data types

i.int →101 102 3 ----- -32768 to 32767

ii. long int→

iii. char → A,$,#,%

iv. float → 45.21,48.32 ----- maximux 6 digit after point

v. double → 7 digit

2.non primitive data types

i.derived data types

--(afp) →array,function,pointer

ii.user defined data types

---structure,union

Rules for varible declaration

1.first character should be alphabet or underscore.

2.should not contain any special character .

3.it is case sensitive.

4.should not be any keyword.

Formatting for premative data types

1.int → %d/%i

2.long int →%ld

3. float –> %f

4.double →%lf

5.char→%c

Lecture -6&7 (date-19,20)

Tokens:

1.keywords-32 keywords

2.identifiers- variable (value should be change in program)

3.special symbol(bracket)

4.string

5.constants (value should not be change in program)

6.operators

1.arithmetic operator ---> +,-,*,/,%

2.assignment operator → =

3.comparison operator → ==,<=,>=,<,>,!=

Example

A=10

B= 20

operator	result	Output
A==b	false	0
A!=b	true	1
A<=b	true	1
A<b	true	1
a>=b	false	0
A>b	false	0

Type casting flow:

1.impicit

2.explicit

Int – long

int – float --- char

4.increment/decrement operator:

1.pre increment →++a

2.post increment→a++

3.pre decrement→--a

4.post decrement→a—

5.logical operator:&&(and),||(or),!(not)

i.and→

true && true—true

true&&false—false

false&&true—false

false&&false—false

ii.or→

true||true—true

true||false—true

false||true—true

false||false—false

6.bitwise operator→&(and),|(or)

7.sizeof operator

8.special operator(?-ternary operator)true:false

Lecture -8,9,10,11,12 (date-21,22,24,26,27)

Conditional statement

Switch statement

Goto statement

1.simple if...else

2.ladder if … else

3.nested if… else

Looping statement

1.entry control loops

i.for loop

ii.while loop

2.exit controlled loops

a.do while loop

1.initialization(one time)

2.condition

3.code

4.counter control

Primeજો નંબર માત્ર પોતાના તથા 1 થી ભાગી શકાય

factorialનંબર ને 1 થી લઈ નંબર સુધી ગુણવાનો

Strongયુઝરે આપેલ નંબર ના દરેક ડિજિટના factorial નો સરવાડો એ સરખા હોય

Armstrongયુઝરે આપેલ નંબર ના દરેક ડિજિટના power નો સરવાડો એ સરખા હોય

Perfect-જે નંબર ને ભાગી શકતા તેનો શેષ 0 મડે એવા ડિજિટ નો સરવાડો નંબર સમાન હોય

Palindrome-નંબર નો રિવર્સ નંબર જ હોય

Fibonacci series-આગડના બે ડિજિટ નો સરવાડો

Lecture -13,14,15,16,17,18(date-28,29,30,31,3,4)

→Pattens:

i.Squre.

ii.Piramid.

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iii.Tringle.

→1.premetive data types(limited only one number at a time)

--int

--float

--char

→2.non-premitive data type:

i. Derived data type:

--array,function,pointer.

ii.user defined data type:

--structure , union

→**Array :-**

- Array store multiple element of same data type.
- Two type of array:-
- i.single dimension array.(1d array)
- Ex-
- Int roll[5]={1,2,3,4,5};
- Printf("%d",roll[3]);
-
- Ii.multi dimension array.(2d array)

→Rules of Array:-

- Array Index start with 0.
- Last index number =num-1.
- Continues memory location.

Lecture 16 - Test

→Mostly Asked Questions in Single Dimension Array:

- 1.Searching:-
- i.index
- ii.element
- 2.Sorting:-
- i.Ascending.
- Ii.Decending.

Minimum and Maximum value find in sorted and un sorted Array.

Lecture -19,20,21,22,23,24(date-6,7,9,10,12,13)

2d array

Row=2

Col=3

Sum of 2d array

Squre matrix

Matrix

Table one ni row no gunakar table 2 ni column a one by one digit sate.

Transposed array

Function-4 type

i.with return type with argument

ii.with return type without argument

iii.without return type with argument

iv.without return type without argument.

1.declaration.

2.definition.

3. calling.

Benefit

Height loss and increase reusability.

Pointer-

Address store work.

&--address of

*-- value at

Variable → value of variable

&variable→address of variable

Formsting

%d/%c/%f→value

%p→address

%d/%c/%f→variable/*pointer

%p→&variable/pointer.

String-sequence of character

→last character of string is also null('\0').

→formatting==%s

Char ch[5] ---> 'tops'

Char ch ='a';

String →"tops".

→function in string:

→whenever you want to use the string function in c must write the header file:

#include<string.h>

i.in-build function

ii.user defined function

→in build function:-

There are total seven in build function:

1.strlen() --- >int

→calculate the length of string return number of character with white space.

Ex.

A=hello(5)

B=bye(3)

2.strrev(a):

→used to reverse the string.

Out:olleh

3.strcat(a(destination),b(source)):-

→used to combine two string.

Ex:

Out:hellobye

4.strcmp(a,b):

0→similar

!0=diffrent

→used to compare two string.

→if both string are equal it return 0.otherwise return anything.

5.strcpy(a,b):

→used to copy the string.

Out:-

Bye

6.strupr(a):

→used to convert string in uppercase.

Out:HELLO

7.strlwr(b):

→used to convertsting in lowercase character.

Out: bye.

Most important thing:

All above only two function can return value:

i.strlen()

ii.strcmp()

User defined string function.

Lecture -25,26,27(date-14,16,17)

→lecture -25(d-14-6-25)

Premitive-one datatype and one element

Int a;

Derived→one datatype but multiple elements.

User defined datatype→multiple datatypes multiple elements

→structure-struct keyword used to create

→union-union keyword used to create

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file handling

Write-w→new file/existing file overwrite

Read-r--.existing file

Append-a→new file/existing file./add new

Lecture -26(d-16-6-25)

Test

Lecture-27(d-17-6-25)

File handling

Number of student=2

1.add new student

Rollno.

Name.

Percentage.

Grade calculate

Upto 80 =a

Upto 35 and less 80=b

35 less=c

Student-1

Roll.

Name-

Percentage=

Grade

Student-2

Roll.

Name-

Percentage=

Grade

1.add new student

2.display all student

3.display particular student(roll no)

4.update student deails

1.name.

2.percentage.

5.delete student.
