SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COURSE NAME : 23CST101 C PROGRAMMING AND DATA STRUCTURES
I YEAR / II SEMESTER

Unit 1- C PROGRAMMING FUNDAMENTALS- A REVIEW

Topic 9 : Introduction-Arrays

Brain Storming

1. How to allocate continuous memory location?

- Hint: int a=5;

- Single storage location is alloted for 5 in a variable "a".

- How to allocate more than one memory location?

Memory Representation
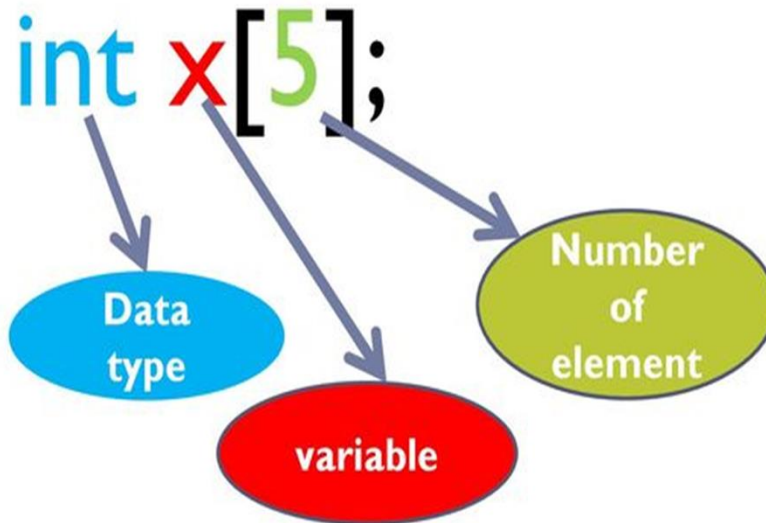
val[0]	val[1]	val[2]	val[3]	val[4]	val[5]	val[6]
11	22	33	44	55	66	77
88820	88824	88828	88832	88836	88840	88844

BeginnersBook.com

All the array elements occupy contigious space in memory. There is a difference of 4 among the addresses of subsequent neighbours, this is because this array is of integer types and an integer holds 4 bytes of memory.

Memory representation of array

Array Representation

int x[5];

- Data type
- variable
- Number of element

x[0] = 100;
x[1] = 200;
x[2] = 300;
x[3] = 400;
x[4] = 500;

▸ Contoh:

index	0	1	2	3	4
value	100	200	300	400	500

Conti...

Array Declaration in C

int a[3];

2192	451	13918

int a[3]={1, 2, 3};

1	2	3

int a[3]={1, 1, 1};

1	1	1

int a[3]={ };

0	0	0

int a[3]={ 0 };

0	0	0

int a[3]={ 1 };

1	0	0

int a[3]={ [0...1]=3 };

3	3	0

int a[ ]={ [0...1]=3 };

3	3

int *a;
int* a;
int * a;
int*a;

Assessment 1

1. What is array?

   Ans : _____

2. How to allocate more than one memory location for a variable?

   Ans : _____

References

TEXT BOOKS

1. E.Balagurusamy, "Fundamentals of Computing and Computer Programming", 2nd Edition Tata McGRaw-Hill Publishing Company Limited, (2012). (UNIT – I, II, III, IV, V)

2. Ashok.N.Kamthane," Computer Programming", Pearson Education (India) (2010). (UNIT –II, III IV, V)

3. Reema Thareja, "Programming in C", 2nd Edition, Oxford University Press,(2015). (UNIT –I,II, III, IV, V)

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1. Byron Gottfried, "Programming with C", 2nd Edition, (Indian Adapted Edition), TMH Publications, (2006). (Unit II, III, IV)

2. Stephan G kochan, "Programming in C" Pearson Education (2008), (UNIT II, III, IV, V)

3. P.Sudharson, "Computer Programming", RBA Publications (2008), (UNIT I, II, III, IV)

4. Yashavant P. Kanetkar. "Let Us C", BPB Publications, 2014.(Unit II, III, IV, V)

5. Anita Goel and Ajay Mittal, "Computer Fundamentals and Programming in C", Dorling Kindersley (India) Pvt. Ltd., Pearson Education in South Asia, 2011. (UNIT – I, II, III, IV, V)

Thank You