

Course Code: DIPCS-211
Class: DIP (CSE/IT)-3rd Sem.
Title: Programming in C
Assignment Number: 2
Last Dates for Submission: 10th Nov, 2016

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Question 1:

a)

i) Write an interactive program which prompts the user with the following options on the opening menu:

- 1) Subtract two integers
- 2) Compare two integers to find the smallest
- 3) Test an integer for odd or even
- 4) Quit

Enter your choice:

If “1” is entered, prompt for the input of two integers and display their difference. If “2” is entered, prompt for two integers and display the smaller of the two. If “3” is entered, prompt the user for one integer and print out if it is odd or even. If “4” is entered, exit the program. If the user enters any letters or numbers other than the choice, redisplay the prompt. All output should go to the terminal and all input should come from the keyboard.

ii) Write a C program to input basic salary of an employee and calculate its Gross salary according to following:

Basic Salary \geq 10000 : HRA = 20%, DA = 80%

Basic Salary \geq 20000 : HRA = 25%, DA = 90%

Basic Salary \geq 30000 : HRA = 30%, DA = 95%

iii) Write a C program to input any character and check whether it is alphabet, digit or special character.

b) Explain each of the following with suitable example.

- i) Decision Control Statements (if, if else and switch case)
- ii) Loop control statements do, do while, for
- iii) Arrays (1 D, 2D)
- iv) Structures & unions

Question 2:

a) What is data type? What is the need of data types in C programming? Write down all the data types available in C.

b) What do you understand by the terms ‘Sorting’ & ‘Searching’? Explain the usefulness of searching. Also, write the program of linear search and sorting with the help of arrays.

Course Code: DIPCS-212
Class: DIPLOMA (CSE/IT)-3rd Sem.
Title: E-Commerce
Assignment Number: 2
Last Dates for Submission: 10th Nov, 2016

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme, and Enrolment No. clearly at the top of the page.

Question 1:

a) What do you understand by the Online Shopping? Write short notes on the following Online Shopping websites after your observations.

- 1) Flipkart (www.flipkart.com)
- 2) ebay (www.ebay.com or www.ebay.in)
- 3) Amazon (www.amazon.in)

(You may write brief history, about the Founder, about popularity, their products, services, discounts, benefits, etc.)

b) Why online banking is so important now a days? Write Short notes on online services provided by the following banking websites.

- 1) PNB bank.
- 2) IOB bank
- 3) ICICI bank.

Course Code: DIPCS-214
Class: DIPLOMA (CSE/IT)-3rd Sem.
Title: Discrete Mathematics
Assignment Number: 2
Last Dates for Submission: 10th Nov, 2016

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HoD within the due date.
3. Write your Name, Programme and Enrollment No. clearly at the top of page.

Q.1

- a)
 - 1) Showthat:
$$(A-B) \cap (B-A) = \Phi$$
 - 2) What do you mean by Tautology? Give a suitable example.
 - 3) Given that the value of $P \rightarrow \bar{Q}$ is true, then determine the value of $P \vee (P \leftrightarrow Q)$.
 - 4) Let R be a relation on the set $A = \{a, b, c\}$ defined by $R = \{(a,b), (b,c), (d,c), (d,a), (a,d), (d,d)\}$.
Write the relation matrix of R.
 - 5) What are different conditions for a function to be invertible?
 - 6) Differentiate between equal and equivalent sets with suitable example.

b) Find the intersection of the following sets:

1. $A = \{a, e, i, o, u\}$; $B = \{a, b\}$
2. $A = \{x: x \text{ is a natural number which is a multiple of } 3\}$; $B = \{x: x \text{ is a natural number and } x \leq 25\}$
3. $P = \{x: x \text{ is a natural number and } 1 < x < 7\}$; $Q = \{x: x \text{ is a natural number and } 8 < x < 15\}$
4. $P = \{1, 3, 5, 7, 11\}$; $Q = \Phi$
5. $P = \{x: x \text{ is a whole number and } x < 10\}$; $Q = \{x: x \text{ is a natural number and } x < 10\}$

Q.2

a) Determine whether each of the following is a tautology, a contradiction or neither:

- 1) $A \leftrightarrow (A \vee A)$
- 2) $(A \vee B) \rightarrow B$
- 3) $A \wedge (\neg (A \vee B))$
- 4) Given that the value of $P \rightarrow \bar{Q}$ is true, determine the value of $P \vee (P \leftrightarrow Q)$.

b) Prove that:

Power set $(A \cap B) = \text{power set } (A) \cap \text{power set } (B)$

Course Code: DIPCS-213
Class: DIPLOMA (CSE/IT)-3rd Sem.
Title: System Software & Operations
Assignment Number: 2
Last Dates for Submission: 10th Nov, 2016

Instructions

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HoD within the due date.
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Q.1

- a) What do you understand by Memory management? Explain Single partition and multiple partition System in detail.

- b) Write short note on:
 - i) Swapping
 - ii) Paging
 - iii) Segmentation
 - iv) Logical and Physical address

Q.2

- a)
 1. What do you understand by Locality of reference? Explain Page replacement Policies: FIFO, LRU, and NRU with example of each.

 2. What is Disk Scheduling? Explain FCFS, SSTF, SCAN and C- SCAN with example of each.

- b) Write short note on:
 - i) Page fault
 - ii) Demand paging
 - iii) Contiguous Allocation & Non Contiguous allocation

Class: DIPLOMA (CSE/IT)-3rd Sem.
Title: Electrical and Electronics Engineering
Assignment Number: 2
Last Dates for Submission: 10th Nov, 2016

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Q1.

- (a) A transformer with an output voltage of 2300V is supplied at 230V. If the secondary has 2000 turns, calculate the number of primary turns.
- (b) Discuss the various methods of speed control of DC motors.

Q2.

- (a) Explain the working principle of single phase induction motor.
- (b) The frequency of the e.m.f. in the stator of a 4-pole induction motor is 50 Hz and that in the rotor is 1.5Hz. What is the slip and at what speed is the motor running?