Datatype and BitWise Operator

Subject: CSW1(CSE2141)
Session: August 2023 to Feb 2024
Branch: CSE&CSIT
Section : All

Q1. Write a Java program to count the number of bits that are set to 1 in an integer.

Q2. The parity of a binary word is 1 if the number of 1s in the word is odd; otherwise, it is 0. Write a Java program to count the parity of an integer number.

Q3. Write a program to swap the i^{th} bit with j^{th} bit of a number.

Q4. Write a program that takes a 64-bit word and returns the 64-bit word consisting of the bits of the input word in reverse order. For example, if the input is alternating 1s and 0s, i.e., (1010...10), the output should be alternating 0s and 1s, i.e.,(0101...01).

Q5. Write a java program to copmute $x \times y$ without arithmetic operators.

Q6. Write a java program to copmute x/y without arithmetic operators.

Q7. Write a program to find x^y.

Q8. Write a program to find the reverse of a number. For example, if the input is 123 output is 321, and if the input is -245 output is -542.

Q9. Write a program to check whether a number is palindrome or not.

Q10. Write a Java program that reads two float numbers and checks whether the difference between these two numbers is less than ϵ ($\epsilon < 1$).

Q11. Write a Java program that reads an integer number and counts the number of digits that are even.

Q12. Write a Java program that reads two integer number and create a third number by taking the first two digits of the first number and the last two digits of the second number.
Example: Input: 45678, 312 Output:4512

Q13. Write a Java program to count the frequency of each digit of a number.

Q14. Write a Java program to check whether a number is prime or not.

Q15. Write a program to print the first 100^th prime number.

Q16. Write a Java program to print the prime number in a range.

Q17. Write a program that returns true if the number is even else returns false. Note: don't use if else.