

ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian Minority Institution

WORKSHEET – 47

Topic: Applications of Stacks

Subject: COMPUTER SCIENCE	Class - 12	F.M:15
Chapter: Stacks and Queues		Date: 23/01/2021
Choose the correct a	answer for each question:	[5 X 1 = 15]
 How many stacks are r a) one two three four 	required for applying evaluation of infix	<pre>k expression algorithm?</pre>
 2. How many passes does input? a) One b) Two c) Three d) Four 	es the evaluation of infix expression algo	orithm makes through the
 3. Identify the infix expread a) a/b+(c-d) b) abc*+d+ab+cd+*ce-c) ab-c-d) +ab 	ession from the list of options given bel -f-	ow.
 4. Which of the following algorithm? a) Operand is pushed of b) If the precedence of c) If the precedence of d) The result is pushed 	g statement is incorrect with respect to on to the stack f operator is higher, pop two operands f operator is lower, pop two operands a d on to the operand stack	evaluation of infix expression and evaluate and evaluate
5. Of the following choice a) ^ b) + c) / d) #	es, which operator has the lowest prec	edence?
 6. What is the value of th a) 1 b) 40 c) 74 d) -18 	ne postfix expression 6 3 2 4 + – *?	

- 7. Here is an infix expression: 4 + 3*(6*3-12). Suppose that we are using the usual stack algorithm to convert the expression from infix to postfix notation. The maximum number of symbols that will appear on the stack AT ONE TIME during the conversion of this expression?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
- 8. The postfix form of the expression (A+ B)*(C*D- E)*F / G is?

a) AB+ CD*E – FG /**

- b) AB + CD* E F **G /
- c) AB + CD* E *F *G / d) AB + CDE * - * F *G /
- 9. The data structure required to check whether an expression contains a balanced parenthesis is?
 - a) Stack
 - b) Queue
 - c) Array
 - d) Tree
- 10. What data structure would you mostly likely see in non recursive implementation of a recursive algorithm?
 - a) Linked List
 - b) Stack
 - c) Queue
 - d) Tree
- 11. The postfix form of A*B+C/D is?
 - a) *AB/CD+
 - b) AB*CD/+
 - c) A*BC+/D
 - d) ABCD+/*
- 12. Evaluate the following and choose the correct answer.

a/b+c*d where a=4, b=2, c=2, d=1.

- a) 1
- b) 4
- c) 5
- d) 2
- 13. Using the evaluation of infix expression, evaluate a^b+c and choose the correct answer.
 - (a=2, b=2, c=2)
 - a) 12
 - b) 8
 - c) 10
 - d) 6

14. Evaluate the following infix expression using algorithm and choose the correct answer. a+b*c-d/e^f where a=1, b=2, c=3, d=4, e=2, f=2.

- a) 6
- b) 8
- c) 9
- d) 7

15. Which data structure is needed to convert infix notation to postfix notation?

a) Branch

b) Tree

c) Queue

d) Stack

Phalguni Pramanik