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**K036**

**B Tech Cybersecurity Batch-K1**

Q) Evaluate postfix expression

Code:

#include<iostream>

#include<math.h>

using namespace std;

const int MAX = 30;

class Stack

{

private:

int stack[MAX];

int top;

public:

Stack() : top(-1) {}

void push(int element)

{

if(top==MAX-1)

{

cout << "Stack overflow"<<endl;

return;

}

stack[++top] = element;

cout <<"Data pushed into the stack= "<<element<< endl;

}

int pop()

{

if (top == -1)

{

cout << "Stack underflow" << endl;

return -1;

}

return stack[top--];

}

int peek()

{

return (top == -1) ? -1 : stack[top];

}

int size()

{

return top+1;

}

bool isEmpty()

{

return top==-1;

}

void display()

{

if(isEmpty()==1)

{

cout<<"Stack is empty";

}

else

{

for(int i =top;i!=-1;i--)

cout<<stack[i]<<"\n";

}

}

void evaluate(string st,int l)

{

int op1,op2;

for(int i=0;i<l;i++)

{

if(isdigit(st[i]))

push(st[i]-48);

else{

op2=pop();

op1=pop();

switch(st[i])

{

case'+':

push(op1+op2);

break;

case'-':

push(op1-op2);

break;

case'\*':

push(op1\*op2);

break;

case'/':

push(op1/op2);

break;

case'%':

push(op1%op2);

break;

case'^':

push(pow(op1,op2));

break;

}

}

}

}

};

int main()

{

Stack s;

string st;

cout<<"Enter the postfix expression";

cin>>st;

int l = st.length();

s.evaluate(st,l);

}

Output:

