

**Q.) WAP to convert a given valid parenthesized infix arithmetic expression to postfix expression. The expression consists of single character operands and the binary operators + (plus), - (minus), \* (multiply) and / (divide)**

```
#include <stdio.h>
```

```
#include <ctype.h>
```

```
char stack[20];
```

```
int top=-1;
```

```
void push(char x){
```

```
    stack[++top]=x;
```

```
}
```

```
char pop(){
```

```
    if (top== -1)
```

```
        return -1;
```

```
    else
```

```
        return stack[top--];
```

```
}
```

```
int pre(char x){
```

```
    if (x=='(')
```

```
    return 0;
    if (x=='+' || x=='-')
        return 1;
    if(x=='*' || x=='/')
        return 2;
}
```

```
int main(){
    char exp[20];
    char *e,x;
    printf("Enter the infix expression: \n");
    scanf("%s",exp);
    e = exp;
    while(*e!='\0'){
        if(isalnum(*e))
            printf("%c",*e);
        else if(*e == '(')
            push(*e);
        else if(*e == ')'){
            while((x=pop())!='(')
                printf("%c",x);
        }
        else{
            while(pre(stack[top])>=pre(*e))
```

```

        printf("%c",pop());
        push(*e);
    }
    e++;
}

```

```

while(top!=-1){
    if(stack[top] == '{'){
        printf("\nEntered expression is not fully parenthesised\nPlease
check the expression");
        break;
    }
    else
        printf("%c",pop());
}

```

```

Enter the infix expression:
(4*5(5-6
4556-
Entered expression is not fully parenthesised
Please check the expression

...Program finished with exit code 0
Press ENTER to exit console.

```

```

}

```

Enter the infix expression:

(4\*5)+5

45\*5+

...Program finished with exit code 0

Press ENTER to exit console.