#A) Infix to postfix

postfix = []

temp = []

operator = -10

operand = -20

leftparentheses = -30

rightparentheses = -40

empty = -50

def precedence(s):

if s is '(':

return 0

elif s is '+' or '-':

return 1

elif s is '\*' or '/' or '%':

return 2

else:

return 99

deftypeof(s):

if s is '(':

returnleftparentheses

elif s is ')':

returnrightparentheses

elif s is '+' or s is '-' or s is '\*' or s is '%' or s is '/':

return operator

elif s is ' ':

return empty

else :

return operand

infix = input("Enter the infix notation : ")

fori in infix :

type = typeof(i)

if type is leftparentheses :

temp.append(i)

elif type is rightparentheses :

next = temp.pop()

while next is not '(':

postfix.append(next)

next = temp.pop()

elif type is operand:

postfix.append(i)

elif type is operator:

p = precedence(i)

whilelen(temp) is not 0 and p <= precedence(temp[-1]) :

postfix.append(temp.pop())

temp.append(i)

elif type is empty:

continue

whilelen(temp) > 0 :

postfix.append(temp.pop())

print( "It's postfix notation is ",''.join(postfix))

**OUTPUT:**

PS C:\Users\hp\desktop> python ostexp8.py

Enter the infix notation :a+b\*c-d/e

It's postfix notation is ab+c\*d-e/

**#B) Round Robin**

n=int(input('Enter the no of proceses: '))

tq=int(input('Enter time quantum:'))

b=[]

p=[]

a=[]

bcopy=[]

fori in range(n):

e=input('Enter the name of process:')

p.append(e)

e=int(input('Enter burst time:'))

b.append(e)

e=int(input('Enter arival time:'))

a.append(e)

bcopy.extend(b)

q=[]

c=0

ct=[0,0,0,0]

tat=[0,0,0,0]

wt=[0,0,0,0]

m=min(a)

j=len(p) - 1

i=a.index(m)

q.append(p[i])

while(len(q)!=0):

if b[i]>=tq:

b[i]=b[i]-tq

c=c+tq

else:

c=c+b[i]

b[i] = 0

if j > 0:

for x in range(len(p)):

if (p[x] not in q) and (a[x]<=c):

q.append(p[x])

j = j - 1

if(b[i]!=0):

q.append(p[i])

else:

ct[i] = c

tat[i]= ct[i] - a[i]

wt[i] = tat[i] - bcopy[i]

q.pop(0)

iflen(q)!=0:

m = q[0]

i = p.index(m)

print('Process | AT | BT | CT | TAT | WT \n')

fori in range(n):

print(p[i], '|' , a[i], '|' , bcopy[i], '|' , ct[i], '|', tat[i], '|', wt[i], '\n')

awt=sum(wt)/n

atat=sum(tat)/n

print('The average waiting time is:',awt)

print('The average turn around time is:',atat)

**OUTPUT:**

Enter the no of proceses: 4

Enter time quantum:2

Enter the name of process:p1

Enter burst time:9

Enter arival time:0

Enter the name of process:p2

Enter burst time:5

Enter arival time:1

Enter the name of process:p3

Enter burst time:3

Enter arival time:2

Enter the name of process:p4

Enter burst time:4

Enter arival time:3

Process | AT | BT | CT | TAT | WT

p1 | 0 | 9 | 21 | 21 | 12

p2 | 1 | 5 | 18 | 17 | 12

p3 | 2 | 3 | 13 | 11 | 8

p4 | 3 | 4 | 17 | 14 | 10

The average waiting time is: 10.5

The average turn around time is: 15.75