**SHIFT-REDUCE PARSING TABLE**

Code

# example 2

# gram = {

#    "E":["2E2","3E3","4"]

# }

# starting\_terminal = "E"

# inp = "2324232$"

gram = {

   "S":["S+S","S\*S","i"]

}

starting\_terminal = "S"

inp = "i+i\*i"

stack = "$"

print(f'{"Stack": <15}'+"|"+f'{"Input Buffer": <15}'+"|"+f'Parsing Action')

print(f'{"-":-<50}')

print(f'{stack: <15}'+"|"+f'{inp: <15}'+"|"+f'')

while True:

   action = True

   i = 0

   while i<len(gram[starting\_terminal]):

      if gram[starting\_terminal][i] in stack:

         stack = stack.replace(gram[starting\_terminal][i],starting\_terminal)

         print(f'{stack: <15}'+"|"+f'{inp: <15}'+"|"+f'Reduce S->{gram[starting\_terminal][i]}')

         i=-1

         action = False

      i+=1

   if len(inp)>0:

      stack+=inp[0]

      inp=inp[1:]

      print(f'{stack: <15}'+"|"+f'{inp: <15}'+"|"+f'Shift')

      action = False

   if inp == "" and stack == ("$"+starting\_terminal):

      print(f'{stack: <15}'+"|"+f'{inp: <15}'+"|"+f'Accepted')

      break

   if action:

      print(f'{stack: <15}'+"|"+f'{inp: <15}'+"|"+f'Rejected')

      break

Output:

