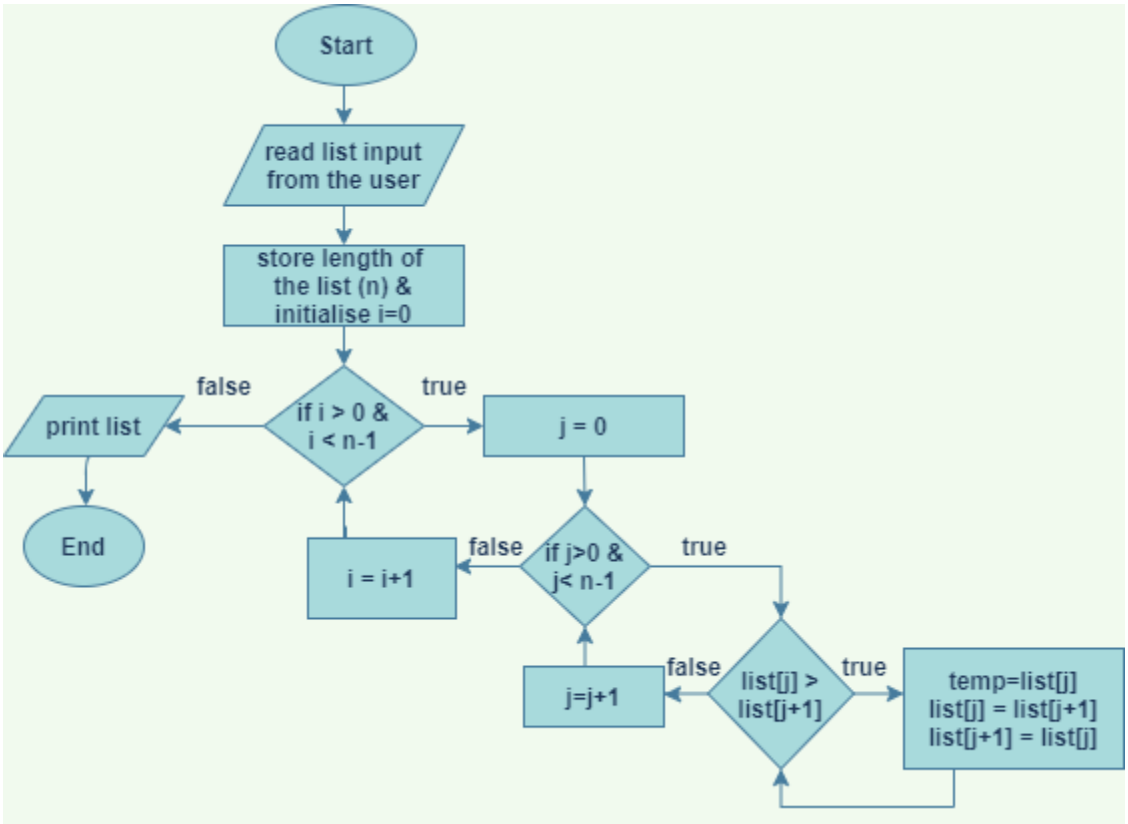
AKSHAT KUMAR
20MIS0183

Activity 1.31

 # algorithm for bubble sorting

1. Start
2. Read an unsorted list from the user.
3. It starts from the 1st index value of the list i.e; index 0
4. It compares the value of 1st index with the next adjacent block
5. If the number in 1st index value is greater than the number in the 2nd index value then the both numbers are swapped
6. This same step is followed for each block till it reaches the last value in the list
7. This sorting ends when the block is arranged in increasing order
9. End

 # flowchart for bubble sorting



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 # code

```
list_numbers=[]
print("Enter 10 numbers")
i=1
while i <= 10:
    n=int(input("Number {} : ".format(i)))
    if n not in list_numbers:
        list_numbers.append(n)
    else:
        print("You have already entered this number, Try Another number")
        continue
    i += 1
print('List created :', list_numbers, '\n')
#-------------------------------------------------------------------------------
-----
print('List is sorted in ascending order')
ln=len(list_numbers)
for x in range(ln):
    for j in range(ln-1):
        if list_numbers[j] > list_numbers[j+1]:
            temp=list_numbers[j]
            list_numbers[j]=list_numbers[j+1]
            list_numbers[j+1]=temp
print(list_numbers)
f=open('ascending_numbers.txt', 'a')
for b in list_numbers:
    f.write(str(b))
    f.write('\n')
print('Created a file ascending_numbers\n')
f.close()
#-------------------------------------------------------------------------------
-----
print('List is sorted in descending order')
ln=len(list_numbers)
for x in range(ln):
    for j in range(ln-1):
        if list_numbers[j] < list_numbers[j+1]:
            temp=list_numbers[j]
            list_numbers[j]=list_numbers[j+1]
            list_numbers[j+1]=temp
print(list_numbers)
f=open('descending_numbers.txt', 'a')
```

```
for b in list_numbers:
    f.write(str(b))
    f.write('\n')
print('Created a file descending_numbers\n')
f.close()
#-------------------------------------------------------------------------------
-----
f_e=open('even_numbers.txt', 'a')
f_o=open('odd_numbers.txt', 'a')
for c in list_numbers:
    if c%2 == 0:
        f_e.write(str(c))
        f_e.write(str('\n'))
    else:
        f_o.write(str(c))
        f_o.write(str('\n'))
print('Created a file even_numbers\n')
print('Created a file odd_numbers\n')

f_o.close()
f_e.close()
```

 # output

```
C:\Users\user\Desktop\python>C:/Users/user/AppData/Local/Programs/Python/Python3
8-32/python.exe c:/Users/user/Desktop/python/act1.31/1.py

Enter 10 numbers
Number 1 : 10
Number 2 : -2222
Number 3 : 100
Number 4 : 0
Number 5 : 86
Number 6 : -576
Number 7 : -224
Number 8 : 90
Number 9 : 1
Number 10 : 327
List created : [10, -2222, 100, 0, 86, -576, -224, 90, 1, 327]
```

```
List is sorted in ascending order
[-2222, -576, -224, 0, 1, 10, 86, 90, 100, 327]
Created a file ascending_numbers

List is sorted in descending order
[327, 100, 90, 86, 10, 1, 0, -224, -576, -2222]
Created a file descending_numbers

Created a file even_numbers

Created a file odd_numbers
```