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| **Ex.No:3** | **Finding Exponentiation (Power of an Number)** |
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***Aim:***

To develop a python program to finding exponentiation (power of a number).

***Algorithm:***

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| Step 1: | Start Process |
| Step 2: | Get a number from user to find exponentiation value |
| Step 3: | Assign final\_result as zero and i as zero |
| Step 4: | Get an number and store in x |
| Step 5: | If i is less than 101 goto Step 7 |
| Step 6: | Else goto Step x |
| Step 7: | Assign power = 1, fact = power, pow\_result = 1, fact\_result = 1 |
| Step 8: | Compute multiplication with pow\_result and x and store in pow\_result |
| Step 9: | Decrement power |
| Step 10: | If power is not equal to zero then goto Step 8 |
| Step 11: | Else goto step 12 |
| Step 12: | Compute multiplication with fact\_result and fact and store in fact\_result |
| Step 13: | Decrement fact |
| Step 14: | If fact is not equal to zero then goto Step 12 |
| Step 15: | Else goto step 16 |
| Step 16: | Compute division with pow\_result and fact\_result and store in term\_result |
| Step 18: | Compute addition with final\_result and term\_result and store in final\_result |
| Step 19 | Increment i and goto Step 5 |
| Step 20 | Display final\_result as e power x value |
| Step 21 | Stop Process |

***Flow Chart:***

***Pseudo Code:***

START

READ x

SET final\_result = 0

SET i = 0

WHILE i less than 101 THEN

SET power = i

ASSIGN fact = power

SET pow\_result = 1

SET fact\_result = 1

WHILE power is not equal to 0 THEN

COMPUTE pow\_result = pow\_result \* x

DECREMENT power

END WHILE

WHILE fact is not equal to 0 THEN

COMPUTE fact\_result = fact\_result \* fact

DECREMENT fact\_result

END WHILE

COMPUTE pow\_result = pow\_result/fact\_result

COMPUTE final\_result = final\_result + term\_result

INCREMENT i

END WHILE

DISPLAY “e power”,x,”value is ”,final\_result

STOP

***Program***

x = int(input("Enter any number"))

final\_result = 0

for i in range(0,101):

power = i

fact = power

pow\_result = 1

fact\_result = 1

while(power !=0):

pow\_result = pow\_result \* x

power = power - 1

while (fact != 0):

fact\_result = fact\_result \* fact

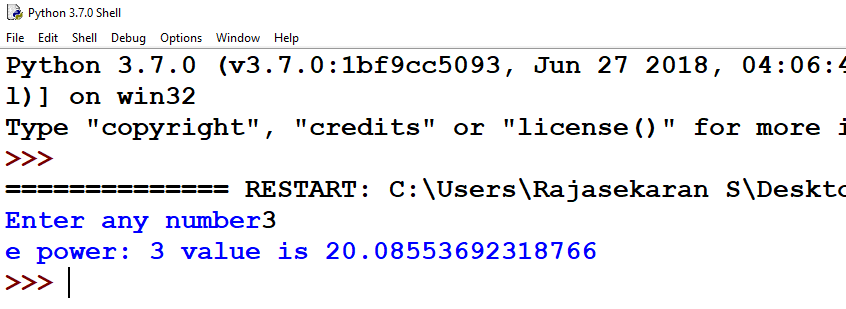
fact = fact - 1

term\_result = pow\_result/fact\_result

final\_result = final\_result + term\_result

print("e power:",x,"value is", final\_result)

***Output***



***Result:***

Thus the python program for finding the exponentiation (power of the number) was developed and tested successfully.