NUMERICAL METHODS I

Quizz 02

United Nations
Educational, Scientific and
Cultural Organization

ICTP - East African Institute
for Fundamental Research
under the auspices of UNESCO

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Quizz # 2

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```
INTEGER(8) RECURSIVE FUNCTION myfac(n) RESULT(res)
  INTEGER(8), INTENT(IN) :: n ! INTENT attribute for
  IF (n < 2) THEN
    res = 1
  ELSE
    res = n * myfac(n - 1)
  END IF
END FUNCTION myfac

PROGRAM factorial
  IMPLICIT NONE
  INTEGER(8) :: m, n
  INTEGER(8), EXTERNAL :: myfac
  READ*, n
  m = myfac(n)                          ! call function
  PRINT*, n, ' factorial is ', m
END PROGRAM factorial
```

The image above shows a recursive function and the accompanying program to compute the factorial of a number.

Question:

Transform the function into a subroutine (recursive) that will perform the same task as the function and modify the following program accordingly.

Instructions:

- Duration: 25 mins
- Send your answer (Fortran file) to sndengue@eaifr.org
- In your email specify your full name and when available your registration number.