ASSIGNMENT: PREPROCESSOR DIRECTIVES.

1. **In which file the macros, EOF and NULL defined. What are the definitions?**
2. **Include <math.h> in your code and use predefined constants to print values of pi, 2pi, pi/2.**
3. **Write a code to calculate area of circle using predefined constants in <math.h>.**
4. **Include <limits.h> in your code and use predefined constants to print ranges of primitive data types (i.e. char/short/int/long/float/double).**
5. **In four-function calculator assignments, define constants for error no and use the same in your code.(EDIVZ for divide by zero error, EINOP for invalid operation).**
6. **Write a macro to calculate.**
    a. **Area of circle**
    b. **Volume of circle**
    c. **Area of rectangle**
7. **Use <ctype.h> and use macros to print category of input character. Categories are: uppercase, lowercase, digit, octal, hex, alphabet, alphanumeric, printable, control and other.**
8. **Write your own macros to print category of input character.**
9. **Write your own macros to convert a character from uppercase to lowercase and vice versa.**
10. **Using bitwise operators write macros.**
    a. **BITVAL(x)**
    b. **SETBIT(x, bitpos)**
    c. **CLEARBIT(x, bitpos) or RESETBIT(x, bitpos)**
    d. **TOGGLEBIT(x, bitpos)**
    e. **SETBITS(x, bitpos, noofbits)**
    f. **CLEAR BITS(x, bitpos, noofbits) or RESETBITS(x, bitpos, noofbits)**
11. **Write a multiline generic macro to swap any two objects irrespective of type.**
12. **Write a multiline generic macro to show bit pattern of given object.**

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- **Explore header files in linux source code and try to analyze purpose of**

```
do                          /
{                           /
        //statements        /
}while(0)                   /
```