PROGRAM

```c
#include <stdio.h>
#include<conio.h>
#include <math.h>
int main (){
int num,tem,task;
int temp,count;
float sqr,sq,cube,prime,fact,pf;
clrscr();

printf("Enter the number : ");
scanf("%d",&num);

printf("Enter the task number you want to perform \n (1) square root \n (2) square \n (3) cube \n");
printf(" (4) prime check \n (5) factorial \n (6) prime factors of a number \n");
scanf("%d",&task);

switch(task){
    case 1:
    sqr = pow(num,0.5);
    printf("%.3f",sqr);
    break;

    case 2:
    sq = pow(num,2);
    printf("%.3f",sq);
    break;

    case 3:
    cube = pow(num,3);
    printf("%.3f",cube);
    break;
    case 4:
    for(int i =2; i<=num; i++){
        temp = num%i;
        if(temp == 0){
            count++;
        }
    }
    if(count == 1){
        printf("The given number is a prime number");
    }
    else {
        printf("The given number is NOT a prime number");
    }
    break;

    case 5:
    fact =1;
    for(int i = 1; i<=num; i++){
        fact = fact * i;
    }
    printf("Factorial of the given number is %.1f",fact);
    break;

    case 6:
    //prime factors
    for(int i = 2; num != 1; i++) {
        while(num % i == 0) {
            printf("%d\t", i);
            num = num / i;
        }
    }
    break;
    default:
        printf("Enter a valid input !!");
}
getch();
return 0;
}
```

OUTPUT

```
Enter the number : 36
Enter the task number you want to perform
 (1) square root
 (2) square
 (3) cube
 (4) prime check
 (5) factorial
 (6) prime factors of a number
1
6.000
PS E:\College\SP\Programs\Practise>
```

```
Enter the task number you want to perform
 (1) square root
 (2) square
 (3) cube
 (4) prime check
 (5) factorial
 (6) prime factors of a number
2
1296.000
PS E:\College\SP\Programs\Practise>
```

```
Enter the number : 5
Enter the task number you want to perform
 (1) square root
 (2) square
 (3) cube
 (4) prime check
 (5) factorial
 (6) prime factors of a number
3
125.000
PS E:\College\SP\Programs\Practise>
```

```
Enter the task number you want to perform
 (1) square root
 (2) square
 (3) cube
 (4) prime check
 (5) factorial
 (6) prime factors of a number
4
The given number is NOT a prime number
PS E:\College\SP\Programs\Practise>
```

```
Enter the number : 5
Enter the task number you want to perform
 (1) square root
 (2) square
 (3) cube
 (4) prime check
 (5) factorial
 (6) prime factors of a number
5
Factorial of the given number is 120.0
PS E:\College\SP\Programs\Practise>
```

```
Enter the number : 120
Enter the task number you want to perform
 (1) square root
 (2) square
 (3) cube
 (4) prime check
 (5) factorial
 (6) prime factors of a number
6
2       2       2       3       5
PS E:\College\SP\Programs\Practise>
```