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①

```
#include <stdio.h>
int rec(int);
int main()
```

```
{
    int b;
    printf("enter the value of b");
    scanf("%d", &b);
    printf("the factorial of %d is %d", b,
    rec(b));
    return (0);
}
```

```
int rec(int x)
{
    int f;
    if (x == 1)
        return 1;
    else;
    f = x * rec(x-1);
    return f;
}
```

②

```
#include <stdio.h>
void main ()
```

```
{
    char a;
    printf ("enter the character to  
check vowel or not");
```

```
scanf ("%d", &a);
```

```
if (a == 'a' || a == 'e' || a == 'i' ||  
a == 'o' || a == 'u' || a == 'A' ||  
a == 'E' || a == 'I' || a == 'O' ||  
a == 'U')
```

```
printf ("the character is vowel");
```

```
else
```

```
printf ("character is not vowel");
```

```
return (0);
```


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```
#include <stdio.h>
#include <conio.h>
struct student
```

```
{
    char name [50];
    int roll;
    float marks;
    s[10];
}
```

```
void main()
```

```
{
    int i;
    printf("enter details for 3 students");
    for (i = 0; i < 3; i++)
```

```
{
    printf("Enter roll number ");
    scanf("%d", &s[i].roll);
    printf("enter marks ");
    scanf("%d", &s[i].marks);
    printf("enter name");
    scanf("%d", &s[i].name);
    printf("\n");
}
```

```
printf("\n Displaying Details student");  
for (i = 0; i < 3; i++)
```

```
{  
    printf(" Row number %d", s[i].row);  
    printf(" Name");  
    puts(s[i].name);  
    printf(" marks %d", s[i].marks);  
    printf("\n");  
}
```

⑥

```
#include <stdio.h>  
#include <conio.h>  
void main ()
```

```
{  
    int a[10], i = 0, ele = 0, flag = 1;  
    printf("enter array elements");  
    for (i = 0; i < 10; i++)  
        scanf("%d", &a[i]);  
}
```

⑤

```
#include <stdio.h>
int main ()
```

```
{
    int matrix [3] [3]
```

```
    int i, j;
```

```
    printf ("Enter the element ");
```

```
    for (i = 0; i < 3; i++)
```

```
    {
        for (j = 0; j < 3; j++)
```

```
        scanf ("%d", &matrix[i][j]);
```

```
    }
    printf ("Diagonal elements ");
```

```
    for (i = 0; i < 3; i++)
```

```
    {
        for (j = 0; j < 3; j++)
```

```
        if (i == j)
```

```
            printf ("%d", matrix[i][j]);
```

```
    }
    return 0;
```