1.
```c
// Divisible by 3 and 2
#include <stdio.h>
int main()
{
    int x
    Printf(" Enter number = ");
    Scanf(" %d ", &x);
    r = x%6;
    if(r == 0)
    Printf("%d is divisible by 3 and 2", x);
    else
    Printf(" %d is not divisible by 3 and 2", x);
    getch();
}
```

2.
```c
#include <stdio.h>
int main()
{
    int x
    Printf(" Enter the number = ");
    Scanf(" %d ", &x);
    r₁ = x%7 ;
    r₂ = x%3;
    if(r₁ == 0 && r₂ == 0)
    Printf("%d divisible by both", x);
    else if (r₂ == 0)
    Printf(" %d is divisible by 3", x);
    else if (r₁ == 0)
    Printf(" Not divisible by 7 or 3",
    Printf("%d divisible by 7 ", x);
    else
    Printf(" Not divisible by any ");
    getch();
}
```

```c
int main()
{
    int x;
    printf(" Enter the number=");
    scanf("%d", &x);
    if (x>0)
        printf("%d is positive", x);
    else if (x<0)
        printf("%d is negetive", x);
    else
        printf("%d is zero", x);
    getch();
}
```

```c
int x;
char ch;
printf(" Enter the charecter=");
scanf("%c", &ch);
if (ch>='A' && ch<='z')
    printf("%c is upper case", ch);
else if (ch>='o' && ch<='z')
    printf("%c is lower case", ch);
else if (ch>=0 && ch<=9)
    printf("%c is digit", ch);
else
    printf("%c is special charecter", ch);
getch();
}
```

4.
```c
// Leap year or not
#include <stdio.h>
int main()
{
    int x, r1, r2, r3;
    printf(" Enter the year=");
    scanf("%d", &x);
    r1 = x % 400;
    r2 = x % 100;
    r3 = x % 4;
    if ((r1 == 0) || (r2!=0 && r3 == 0))
        printf("%d is leap year", x);
    else
        printf("%d is not leap year", x);
    getch();
}
```

5.
```c
#include <stdio.h>
int main()
{
    int x, y, z, big;
    printf(" Enter three number=");
    scanf("%d %d %d", &x, &y, &z);
    big = x;
    if (y>big)
        printf("%d is greatest", y) big=y;
    else if (z>big)
        printf("%d is greatest", z); big=z; }
    else
    printf("%d is greatest", big);
}
```

7.
```c
#// Triangle valid or not
#include <stdio.h>
int main()
{
    float x, y, z;
    printf(" Enter three sides of triangle=");
    scanf("%f %f %f", &x, &y, &z);
    if (x> y+z || y+z>x || z+x>y)
        printf("Valid");
    else
        printf("invalid");
}
```

8.
```c
// name of the month and days
#include <stdio.h>
int main()
{
    char ch; int n;
    printf("Enter name of the month = ");
    scanf("%c", &ch); scanf("%d", &n);
    if(ch==n==2)
    printf("%d no month is 28/29 days", n);
    else if(n==1 || n==3 || n==5 || n==7 || n==8 || n==10 || n==12)
    printf("%d no month is 31 days", n);
    else
    printf("%d no month is 30 days", n);
}
```

9.
```c
#include <stdio.h>         // calculation of Grade
int main()
{
    int p, c, M, co, B;
    float P_P;
    printf("Enter the marks of p = ");
    scanf("%d", &p);
    printf("Enter the marks of c = ");
    scanf("%d", &c);
    printf("Enter the marks of m = ");
    scanf("%d", &m);
    printf("Enter the marks of co = ");
    scanf("%d", &co);
    printf("Enter marks of B = ");
    scanf("%d", &B);

    P_P = (P+c+m+co+B)/5;

    if(P_P >= 90 && P_P <= 100)
    printf("Grade A");
    else if(P_P >= 80 && P_P < 90)
    printf("Grade B");
    else if(P_P >= 70 && P_P < 80)
    printf("Grade C");
    else if(P_P >= 60 && P_P < 70)
    printf("Grade D");
    else if(P_P >= 40 && P_P < 60)
    printf("Grade E");
    else if(P_P < 40)
    printf("Grade F");
    else
    printf("invalid marks");
}
```