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(1)

```
#include <stdio.h>
int main() {
    int n, i, flag = 0;
    printf("Enter a positive integer: ");
    scanf("%d", &n);

    for (i = 2; i <= n / 2; ++i) {

        // condition for non-prime
        if (n % i == 0) {
            flag = 1;
            break;
        }
    }

    if (n == 1) {
        printf("1 is neither prime nor composite.");
    }
    else {
        if (flag == 0)
            printf("%d is a prime number.", n);
        else
            printf("%d is not a prime number.", n);
    }

    return 0;
}
```

(3)

```
#include <stdio.h>

int main()
{
    int c, n, f = 1;

    printf("Enter a number to calculate its factorial\n");
    scanf("%d", &n);
    for (c = 1; c <= n; c++)
        f = f * c;

    printf("Factorial of %d = %d\n", n, f);

    return 0;
}
```

(4)

```
#include <stdio.h>

int main(void) {
    int x = 50;
    do
```

```

{
    printf("%d\n", x);
    x = x + 7;
}
while(x <= 1000);
return 0;
}

```

(5)

```

#include <stdio.h>
int main() {
    char c;
    int lowercase, uppercase;
    printf("Enter an alphabet: ");
    scanf("%c", &c);

    // evaluates to 1 if variable c is lowercase
    lowercase = (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u');

    // evaluates to 1 if variable c is uppercase
    uppercase = (c == 'A' || c == 'E' || c == 'I' || c == 'O' || c == 'U');

    // evaluates to 1 if c is either lowercase or uppercase
    if (lowercase || uppercase)
        printf("%c is a vowel.", c);
    else
        printf("%c is a consonant.", c);
    return 0;
}

```

(6)

```

#include <stdio.h>
void main()
{
    int j,i,n;
    printf("Input upto the table number starting from 1 : ");
    scanf("%d",&n);
    printf("Multiplication table from 1 to %d \n",n);
    for(i=1;i<=10;i++)
    {
        for(j=1;j<=n;j++)
        {
            if (j<=n-1)
                printf("%dx%d = %d, ",j,i,i*j);
            else
                printf("%dx%d = %d",j,i,i*j);

            }
        printf("\n");
    }
}

```

(7)

```

#include <stdio.h>

int main(void) {
    int i, ans, points;
    points = 0;
    for(i = 0; i < 10; i++)
    {

```

```

printf("Enter answer [1-3]: ");
scanf("%d", &ans);
switch(ans)
{
    case 1:
        points += 3;
        break;
    case 2:
        points += 1;
        break;
    case 3:
        points += 2;
        break;

    default:
        printf("Error: wrong answer ...\n");
        break;
}
}
printf("candidate gets %d points in total\n",points);
return 0;
}

```

(10)

```
#include <stdio.h>
```

```

int main(void) {
    int i, years, pop, pop_incr;
    double rate;
    printf("Enter population: ");
    scanf("%d", &pop);
    printf("Enter increase rate (%%) : ");
    scanf("%1f", &rate);
    printf("Enter years: ");
    scanf("%d", &years);
    printf("n\Year\tIncrease\tPopulation\n");
    printf("-----\n");
    for(i = 1; i <= years; i++)
    {
        pop_incr = pop * rate / 100; /*calculation of the population's increase */
        pop += pop_incr; /* calculation of new population. */
        printf("%d\t%d\t\t%d\n", i, pop_incr, pop);
    }
    return 0;
}

```