

Condition

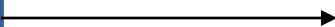
if statements

```
if(Expression)
```

```
{
```

```
 statements
```

```
}
```



indent (1 Tab)

if statements

```
if(logical Expression)
```

```
{
```

```
 statements
```

```
}
```



indent (1 Tab)

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a 20

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a 20

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a 20

a is positive

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a 20

a is positive

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a -10

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a -10

Check if a number is positive

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    return 0;
}
```

a -10

if-else statements

```
if(Expression)
```

```
{
```

```
 statements
```

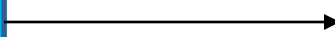
```
}
```

```
else
```

```
{
```



```
 statements
```

```
}
```



indent (1 Tab)

if-else statements

```
if(logical expression)
{
 statements
}
else
{
 statements
}
```



→ indent (1 Tab)

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a 10

10

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a 10

10

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a 10

10
a is positive

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a 10

10
a is positive

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a -10

-10

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a -10

-10

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a -10

-10

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a -10

-10
a is negative

Check if a number is positive or negative

```
int main()
{
    int a;
    scanf("%d", &a);
    if(a > 0)
    {
        printf("a is positive\n");
    }
    else
    {
        printf("a is negative\n");
    }
    return 0;
}
```

a -10

-10
a is negative

If-else if-else statements

```
if(Expression)
```

```
{
```

```
 statements
```

```
}
```

```
else if(Expression) {
```

```
 statements
```

```
}
```

```
else if(Expression) {
```

```
 statements
```

```
}
```

```
else if(Expression) {
```

```
 statements
```

```
}
```

```
else{
```

```
 statements
```

```
}
```



→ indent (1 Tab)

Check if a number is positive/negative/zero

```
int a;
```

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

```
if(a > 0)
```

```
{
```

```
    printf("a is positive\n");
```

```
}
```

```
else if (a < 0)
```

```
{
```

```
    printf("a is negative\n");
```

```
}
```

```
else
```

```
{
```

```
    printf("a is zero\n");
```

```
}
```

a

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a 0

0

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a 0

0

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a 0

0

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a 0

0

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a 0

0
a is zero

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a -10

-10

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a -10

-10

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a -10

-10

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a -10

-10
a is negative

Check if a number is positive/negative/zero

```
int a;  
scanf("%d", &a);  
if(a > 0)  
{  
    printf("a is positive\n");  
}  
else if (a < 0)  
{  
    printf("a is negative\n");  
}  
else  
{  
    printf("a is zero\n");  
}
```

a -10

-10
a is negative

Grading Problem

97-100	A+	67-69	C-
90-96	A	63-66	D+
87-89	A-	60-62	D
83-86	B+	<60	F
80-82	B		
77-79	B-		
73-76	C+		
70-72	C		

Grading Problem

```
int mark;  
scanf("%d", &mark);
```

Grading Problem

```
int mark;  
scanf("%d", &mark);  
if(mark >= 97 && mark <= 100)  
{  
    printf("A+\n");  
}
```

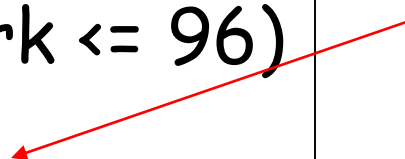
97-100	A+
--------	----



Grading Problem

```
int mark;  
scanf("%d", &mark);  
if(mark >= 97 && mark <= 100){  
    printf("A+\n");  
}  
else if(mark >= 90 && mark <= 96)  
{  
    printf("A\n");  
}
```

90-96	A
-------	---



Grading Problem

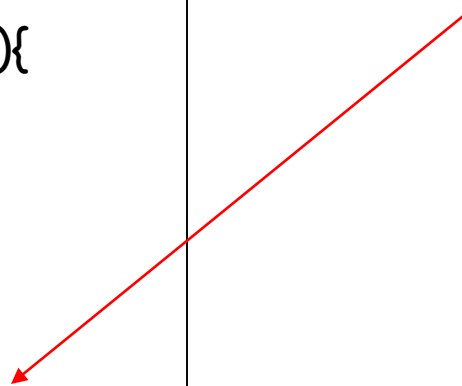
```
int mark;
scanf("%d", &mark);
if(mark >= 97 && mark <= 100){
    printf("A+\n");
}
else if(mark >= 90 && mark <= 96){
    printf("A\n");
}
else if(mark >= 87 && mark <= 90)
{
    printf("A-\n");
}
```

87-90	A-
-------	----

Grading Problem

```
int mark;  
scanf("%d", &mark);  
if(mark >= 97 && mark <= 100){  
    printf("A+\n");  
}  
else if(mark >= 90 && mark <= 96){  
    printf("A\n");  
}  
else if(mark >= 87 && mark <= 90){  
    printf("A-\n");  
}  
...  
...  
else if(mark < 60){  
    printf("F\n");  
}
```

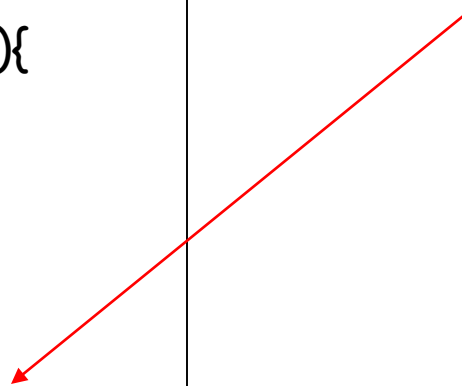
<60	F
-----	---



Grading Problem

```
int mark;  
scanf("%d", &mark);  
if(mark >= 97 && mark <= 100){  
    printf("A+\n");  
}  
else if(mark >= 90 && mark <= 96){  
    printf("A\n");  
}  
else if(mark >= 87 && mark <= 90){  
    printf("A-\n");  
}  
...  
...  
else {  
    printf("F\n");  
}
```

<60	F
-----	---



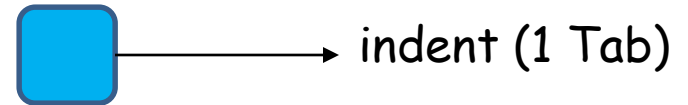
Nested Condition

Nested if-else

```
if(Expression)
{
    if(Expression){
        statements
    }
    else{
        statements
    }
}
else{
    if(Expression){
        statements
    }
    else{
        statements
    }
}
```

If-else if-else statements

```
if(Expression)
{
  if(Expression){
    statements
  }
  else{
    statements
  }
}
else{
  if(Expression){
    statements
  }
  else{
    statements
  }
}
```



Smallest between 3 numbers

Input

-10

0

5

Output

-10

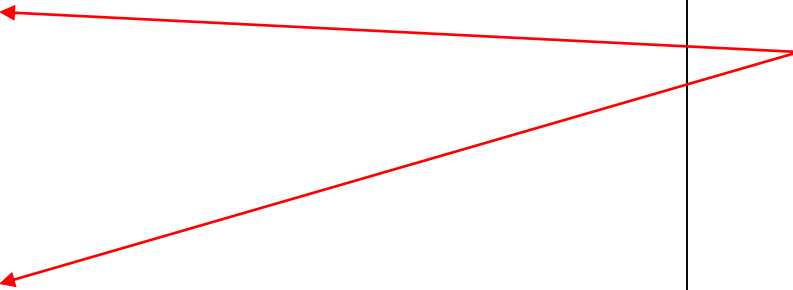
Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);
```

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if (a < b)  
{  
  
}  
else  
{  
  
}
```

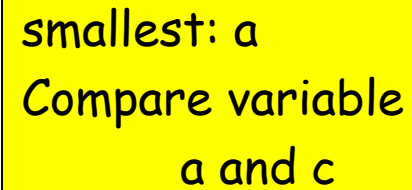
Start with 2 variables
e.g. **a** and **b**



Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b)  
{  
    if ( a < c)  
    {  
        min = a;  
    }  
    else  
    {  
        min = c;  
    }  
}  
else  
{  
  
}
```

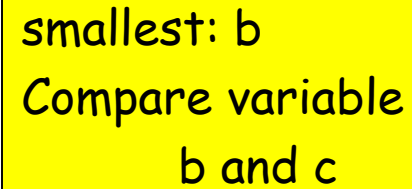
smallest: a
Compare variable
a and c



Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b)  
{  
}  
else  
{  
    if (b < c)  
    {  
        min = b;  
    }  
    else  
    {  
        min = c;  
    }  
}
```

smallest: b
Compare variable
b and c



Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if (a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if ( a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if ( a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if ( a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if ( a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	-10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if (a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	-10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if (a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	-10
c	4

Smallest between 3 numbers

```
int a, b, c;  
scanf("%d %d %d", &a, &b, &c);  
if(a < b){  
    if (a < c){  
        min = a;  
    }  
    else{  
        min = c;  
    }  
}  
else {  
    if (b < c){  
        min = b;  
    }  
    else{  
        min = c;  
    }  
}
```

a	0
b	-10
c	4