

BASIC PROGRAMMING

CONTROL FLOW: CHOICES

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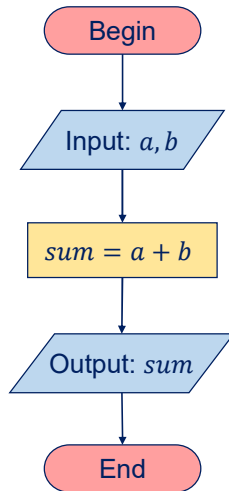
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CONTENTS

- Statements & Blocks
- `if - else`
- `switch`

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STATEMENTS & BLOCKS



```

#include<stdio.h>
#include<conio.h>
int main()
{
    int a, b, sum;
    printf("Input two integers:");
    printf("\n a = "); scanf("%d", &a);
    printf("\n b = "); scanf("%d", &b);

    sum = a + b;

    printf("\nSum is %d\n", sum);

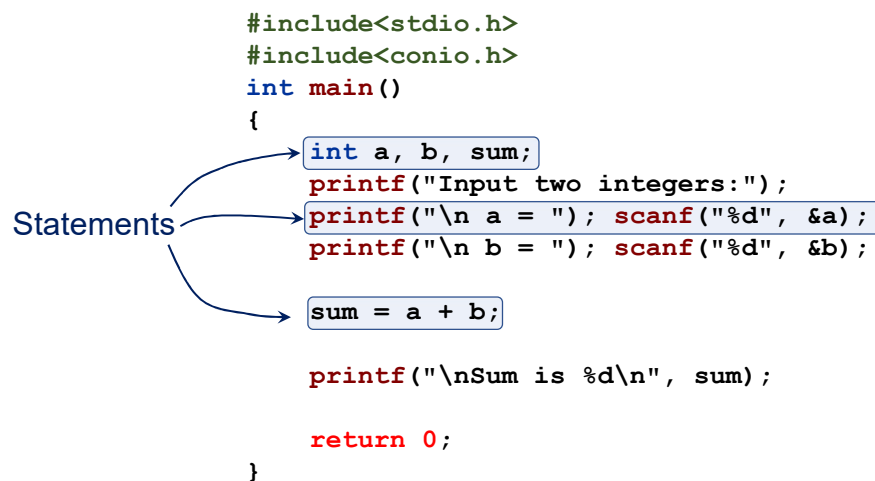
    return 0;
}
  
```

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STATEMENTS & BLOCKS



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STATEMENTS & BLOCKS

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int a, b, sum;
    printf("Input two integers:");
    printf("\n a = "); scanf("%d", &a);
    printf("\n b = "); scanf("%d", &b);

    sum = a + b;

    printf("\nSum is %d\n", sum);

    return 0;
}
```

Begin sign of a block → {

Block →

End sign of a block → }

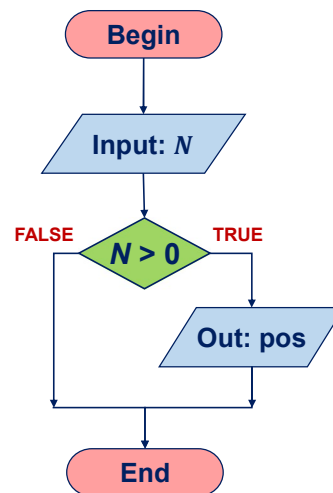
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IF – ELSE

- Problem: Given an integer N , check if N is a positive number



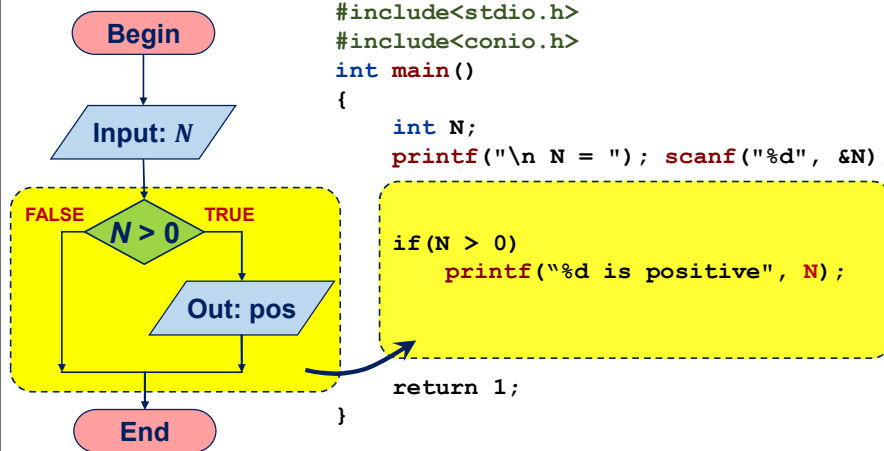
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IF – ELSE

- Problem: Given an integer N , check if N is an positive number



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IF – ELSE

- Problems: Given an integer N , check if:
 - N is a positive number
 - N is a negative number
 - N is an even number ($N\%2 == 0$)
 - N is an odd number
 - N is divided by 7
 - N is a prime number

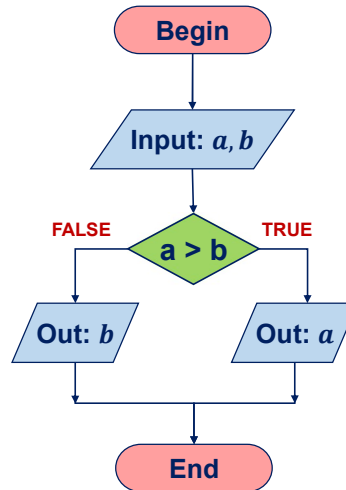
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IF – ELSE

- Problem: Given two integers a and b , find the larger integer.



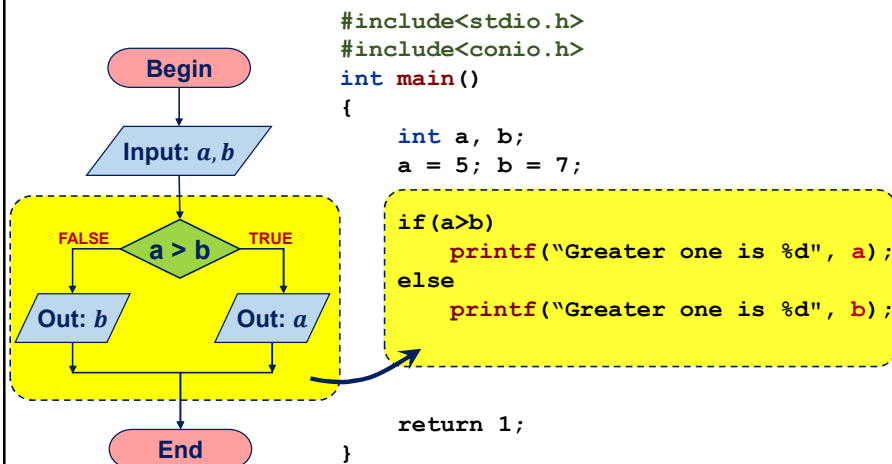
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IF – ELSE

- Problem: Given two integers a and b , find the larger integer.



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IF – ELSE

1. Given an integer N , check if:
 - N is a positive number or a negative number
 - N is an even number or an odd number
 - N is a prime number or not
2. Given two integers a and b
 - Find the larger integer
 - Check if two integers are equal
 - Check if two integers are the same sign (+ or -)
3. Solve linear equation $ax + b = 0$

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IF – ELSE

4. Write a C program:
 - Input your name and your age
 - Input your friend's name and age
 - Tell us who is younger
5. Write a C program:
 - Input your height and your friend's height
 - Tell us who is taller
6. Write a C program:
 - Input gold price of today and yesterday
 - Tell us whether the price goes up or down

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IF – ELSE

7. Write a C program: input a weekday in number within [1,7], print the weekday.
 - E.g., 1 → Sunday, 2 → Monday
8. Write a C program: input month in number within [1,12], print the month.
 - E.g., 1 → January
9. Write a C program: input a month in number within [1,12], print the number of days in given month.

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SWITCH

- Statements & Blocks
- If-Else
- Else-if
- Switch

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SWITCH

Weekday

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int a;
    printf("\n a = "); scanf("%d", &a);
    switch(a) {
        case 1: printf("Sunday"); break;
        case 2: printf("Monday"); break;
        case 3: printf("Tuesday"); break;
        case 4: printf("Wednesday"); break;
        case 5: printf("Thursday"); break;
        case 6: printf("Friday"); break;
        case 7: printf("Saturday"); break;
        default: printf("Wrong input"); break;
    }

    return 1;
}
```

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SWITCH

Weekday

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int a;
    printf("\n a = "); scanf("%d", &a);
    switch(a) {
        case 1: printf("Sunday"); break;
        case 2: printf("Monday"); break;
        case 3: printf("Tuesday"); break;
        case 4: printf("Wednesday"); break;
        case 5: printf("Thursday"); break;
        case 6: printf("Friday"); break;
        case 7: printf("Saturday"); break;
        default: printf("Wrong input"); break;
    }

    return 1;
}
```

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Any Questions?



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