

Printing, variables, arithmetic, user input

Computer Programming 143 – Lecture 2

Introduction to Programming in C

Faculty of Engineering



MOTIVATING EXAMPLE

A diagram showing the equation $V = R \cdot I$. A blue arrow points from the word "Output" to the variable V . Another blue arrow points from the word "Current" to the variable I . A third blue arrow points from the word "Resistance" to the variable R .

- Inputs: R, I
- Processing: Multiply
- Outputs: V

Variables

$$x = 5$$

$$y = 3$$

$$z = x - y$$

$$x = 6$$

$$z = x + y$$

$$x \quad \boxed{\cancel{5} \ 6}$$

$$y \quad \boxed{3}$$

$$z \quad \boxed{\cancel{2} \ 9}$$

$\mathbb{N}$

$\mathbb{R}$

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

```
int main()
```

```
{
```

```
    int integer1;    // declares the "box"
```

```
    int integer2;
```

```
    int sum;
```

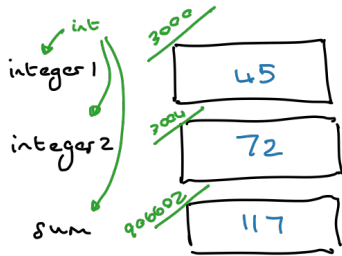
```
    integer1 = 45;
```

```
    integer2 = 72;
```

```
    sum = integer1 + integer2;
```

```
    return 0;
```

```
}
```



2.4 Memory Concepts III

Variables

Characters	char	8 bits	-128 to 127
Strings	char[]		
Integers	int	32 bits	-2147483648 to 2147483647
Decimals	float	32 bits	about $\pm 1.2\text{E-}38$ to $\pm 3.4\text{E+}38$
	double	64 bits	about $\pm 2.3\text{E-}308$ to $\pm 1.7\text{E+}308$

```
int population = 54000;  
char letter = 'a';  
double x = 0.4512;
```

