

EE 1910

Dr. Johnson

Homework 4

1 – Choose the best type of variable for each of the following and select a meaningful name and write a declaration for each.

(bool, char, int, float, float complex)

50pts

of cars in MSOE garage

no partial cars

```
int num_cars;
```

average temperature in March

32.5

```
float temp_ave;
```

indicates the garage is full or not

T or F

```
bool garage_full;
```

rectangular coordinates on the complex unit circle

$1.414 + 1.414*i$

```
float complex coord;
```

middle initial

```
char middle_initial;
```

2 – Choose the best type of variable for each of the following, select a meaningful name and write a declaration for each.

(int8_t, uint8_t, int16_t, uint16_t, int32_t, uint32_t)

50 pts

number of students at MSOE

$256 < \# < 16535$

```
uint16_t stud_cnt;
```

distance from earth to moon

$238,900 \text{ Mi} > 16535$

```
uint32_t earth_moon;
```

of skittles in a small bag

$0 < \# < 255$

```
uint8_t num_skittles;
```

net number of students leaving the CC building
in a 10 minute time period

$+ \text{ or } -, < 65535$

```
int16_t students_out;
```

age difference between two siblings

$+ \text{ or } -, < 255$

```
int8_t age_diff_sib;
```