# Lesson 3 Lab

Task 1: define a **function** which takes in an integer, and then prints the triple of its value (Eg, if input is 2, prints 6)

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| #include <stdio.h>  void NumberPrint(int number)  {  printf("%d", number \* 3);  return;  } |

Task 2: define a **function** which takes in two integers, and returns the smaller one

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| int Compare(int firstNumber, int secondNumber)  {  if (firstNumber < secondNumber) return firstNumber;  return secondNumber;  } |

Task 3: define a **function** which takes in a float, prints it, and then return the absolute value of it.f

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| #include <math.h>  float printAndAbs(float number)  {      printf("%f", number);      return fabs(number);  } |

Task 4: define a **function** which takes in a char, and prints the input char 100 times

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| #include <stdio.h>  void printHundredTimes(char character)  {      for (int x = 1; x <= 100; x++)      {          printf("%c\n", character);      }  } |

Task 5: define a **function** which takes in two doubles, and prints the non-negative difference (Eg, the bigger one – the smaller one) [Hint: if the two inputs are the same, prints 0]

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| #include <stdio.h>  void printDifference(double first, double second)  {      if (first > second) printf("%f", first - second);      else if (first  == second) printf("0");      else printf("%f", second - first);  } |

Task 6: define a function which takes in two integers, and then prints the result of the first number got divided by the second one as a double (Eg, if input 1 4, should print 0.25)

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| #include <stdio.h>  void divider(int first, int second)  {      printf("%f", (double)first / second);  } |

Task 7: define a **program** which reads in a double, and then prints it out as three times: (1) As an int (2) as a double (3) as a float

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| #include <stdio.h>  void printer(double number)  {      printf("%d %f %f", (int)number, number, (float)number);  }  int main()  {      double number;      scanf("%lf", &number);      printer(number);      return 0;  } |

**You are required to use function from math library to answer Task 8 ~ 10:**

Task 8: define a **program** which reads in two doubles, and then prints out the one which has bigger absolute value

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| #include <stdio.h>  #include <math.h>  void compareAndPrint(double first, double second)  {      if (fabs(first) >= fabs(second)) printf("%f", first);      else printf("%f", second);  }  int main()  {      double first;      double second;      scanf("%lf %lf", &first, &second);      compareAndPrint(first, second);      return 0;  } |

Task 9: define a **program** which reads in one positive float (called x), and then prints the value of sin(2x) [Hint: sin(2x) = 2 sin(x) \*cos(x)]

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| #include <stdio.h>  #include <math.h>  void sinAndPrint(float x)  {      printf("%f", 2 \* sin(x) \* cos(x));  }  int main()  {      float x;      scanf("%f", &x);      sinAndPrint(x);      return 0;  } |

Task 10: define a **program** which reads in two positive integers, and then prints their log (base 10) of their sum [Assumption: the user will type in two positive integers]

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| --- |
| #include <stdio.h>  #include <math.h>  void logAndPrint(int first, int second)  {      printf("%f", log10(first + second));  }  int main()  {      int first;      int second;      scanf("%d %d", &first, &second);      logAndPrint(first, second);      return 0;  } |