Functions

-predefined functions

-userdefined functions

Ex. Members of <cmath>

Function math example

Pow(x,y) x^y P=(1+r)^t, P=pow(1+r, t),

Sqrt(x) √x x=√a+b, x=sqrt(a+b)

Fabs(x) |x| x=√|a+b|, x=sqrt(fabs(a+b)),

Exp(x) e^x P=e^r.t , P=exp(r \* t),

Log(x) ln(x) y=ln(a+b)

Y=log(a+b)

Log10(x) logb10(x) y=logb10(ab)

Y=log10(a \* b)

X=logb3 5=logb10 5 / logb10 3

X=log10(5)/log(3);

ROUNDING

Floor(x) |\_x\_| smallest int <= x

Floor(2.3)=2

Ceil(x) |¯x¯| ceil(2.3)=3

MEMBER OF <iostream>

1. Cin

EX: int a,b;

Float c,d;

Char e,f;

Cin inp memory

2.5

Cin>>c 2.5

c

cin>>a>>c;

.5

2

a c

int math, day, year;

char c;

input\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8/27/2018 8 to go to box 1 27 to 2, 2018 to 3 we want to read per piece

8/27/2018 cin>>month;

8

/

Cin>>c;

Cin>>day;

/

27

Cin>>c

Cin>>year;

2018

Use memory as minimum as possible.

Need to ignore char c to save memory

Cin>>month;

8

Cin>>ignore(); //skips one character

27

Cin>>day;

Cin>>ignore(); //skips one character the ‘/’

Cin>>year;

2018

Note:

Cin.ignore(1); //ignores 1 character

Cin.ignore(5); //skips the next 5 characters

Cin.ignore(10, ‘ ’); //maximum of 10 chars but not a particular character.. up to the first space

example, just to read the last name of ‘John Smith’

would be cin>>lastName

1. cin by itself will not read space, and return key.

Example: Read a sentence and count the number of vowels.

Enter a sentence: Hello World [↵]

Use the cin.get(); //reads everything including space and return key

Ex:

Coud<<”Enter a sentence:”;

Char c; //can’t use for loop bec dunno when to stop so we use while loop for condition to stop

Cin.get(c);

While(c!=’\n’) //while c not equal to new line, count number of words

{

if(c==’ ‘) //increase number of words by 1

{

numofWords++;

cin.get(c)

}

}

Cout<<”no. of words=”<<numofWords;

While(cin.get(c), c!=’\n’)

{

If(c==’ ‘) numofWords++;

}

C. getline(cin, fullName); //will read all pieces of the line

string fullName;

cout<<”Enter your full name: “; //entered Donald John Trump

getline(cin, fullName(;

cout<<fullName; //Donald John Trump getline is good to pick up all of that but if u want just middle name you cant use getline but instead cin

D.cout

Members of <iomanip>

Ex: display

| Drink………… 2.10 |

| Sandwiches……………7.25|

Ex want names of menu to be 15 chars, and prices to be 7

Cout<<left<<setw(15)<<”Drink”<<right<<setw(7)<<”2.10”<<endl; //left justification 15 spaces and 7 spaces after

\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ then 7 \_ \_ \_ \_ \_ \_ \_

🡨----------- 15 -----------🡪 🡨------7-----🡪

D r i n k \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ 2 . 1 0

To control the number of digits after decimal point.. use fixed

Ex. int a=100; float b=2.5; //

Cout<<fixed<<showpoint<<setprecision(2); //fixed shows number and not scientific notation… showpoint = if not enough digit after decimal point, fill them with 0….setprecision(2)

Now if u type

Cout<<a; //what will we see? Only 100 bec showpoint fixed and setprecision only works for floating point integers

Cout<<b; //will output 2.50 because setprecision was (2) and showpoint was enabled

Cout<<a/2; // = 50 you were dividing 2 integers

Cout<<a/2. ; // 100/2. ,result will be 50 but in decimal but since we have showpoint and setprecision(2), result will be 50.00

Also MAKE NOTES BECAUSE THEY ADD TO THE FINAL EXAM