

asgn1 design doc  
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mathlib-test.c uses getopt to allow the user to which of the following functions it wants to run:

bbp.c - calculates pi using the Bailey-Borwein\_plouffe formula  
e.c - calculates e using Taylor series  
euler.c - calculates pi using Euler's solution  
madhava.c - calculates pi using Madhava series  
newton.c - takes the square root of 0 through 10 in increments of 0.1  
viete.c - calculates pi using Viète's formula

To do this I use a while loop:

```
test_bbp = false
...
test_viete = false

while opt = get opt((argc, argv, OPTIONS))
    switch(opt)
        case 1:
            test_bbp = true
        ...
        case n:
            test_viete = true

if test_bbp:
    call bbp
...
if test_viete:
    call viete
```

Once the user specifies which functions they want to run using getopt the screen will print out each test case and compare each result with its counterpart in the real math library.