# Assignment Project Exam Help

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#### Outline

## Assignment Project Exam Help

- 2 Reverse-Polish-Notation
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- Assign where hat: cstutores
- CheckMyLab
- **Questions?**

#### **Lab Requirements**

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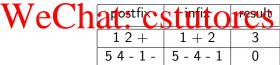
- Assembly control flow
  Loading and storing from memory COM
- Using syscalls

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### Reverse-Polish-Notation (RPN)

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- In this method of writing mathematical expressions, the operator follows the operands,
- Different the operands
- Examples:



#### Stacks

# Assignment Project Exam Help Stacks are a way of storing data in memory

- Is a First-In-First-Out (FIFO) data structure
- Stacktrinipogy//tutorcs.com
   Elements are "pushed" onto the stack, and "popped" from the stack

  - The last element to be pushed onto the stack (that is still in the stack) is referred to as the "top" element
- The Willest that can be solved at an ing Sen time is the top element

#### **RPN Expressions in This Lab**

### Your assignment will require parsing an RP Texpression that Help

- These RPN expressions will be passed as input to your function in the form of an array of tokens.
- This and IS Smy oset Wife I file South to Ball okens
  - OPFRAND
  - PLUS

  - The Chat: cstutorcs
- OPERAND tokens represent operands, PLUS and MINUS tokens represent operators, and the TERMINATION token signifies the end of the expression

#### **Assignment**

# Assignment Project Exam Help Write a function called calculator that computes and prints the result

- of a Reverse-Polish-Notation expression
  - - an RPN expression
    - a1: The address of memory at which to begin growing your stack
- EffecWeChat: cstutorcs
   Prints the result of the expression stored in a0 to standard output

### **Recommended Strategy**

### As bejute over ever then Ptheories pasted to your function Help

- If it is an OPERAND:
  - Push the operand to your stack
- Interpreted the stack, add the values together, then push
  - Plap two operands from the stack, add the values together, then push the resulting value to the stack
- If it is a MINUS:
  - For two pregnits from the stack of the first value you popped and B is the second, compute B A and store the resulting value back to the stack
- If it is a TERMINATION:
  - Pop a value from the stack, print it, then return from your function

### **System Calls**

### Assignment Project Exam Help A list of system calls (syscalls) supported by RARS can be found in

- A list of system calls (syscalls) supported by RARS can be found in the RARS help page
- The syscall you will be using in this lab is Printint, which prints the integer stoled in the a0 register to standard output
- The PrintInt syscall is executed after setting the value of a7 to 1 and using the ecall instruction
- Note: Note:

#### **Stack Growth Direction**

## Assignment Project Exam Help The grading scripts for this lab require that your stack grows

- The grading scripts for this lab require that your stack grows backwards in memory
  - Therefore, if the base address of your stack was at 0x10010004, you will be the first item at 0x10010004, push the second at 0x10010000, and so on
  - While it may seem more intuitive to grow in the other direction, this design more closely replicates the stacks you will be encountering in the control of the control o
  - Marks will be deducted if your stack grows in the wrong direction

#### **Assignment Tips**

## As Rejd specifications very perfully by specification to Whitedup have to include we don't want marn! label X and the coupling to the coupling of the coupling

- Test your assignments on the lab machines before you submit. That's where we'll be marking them.
- Look nttp Skeheet uter Ges of County grading will be done.
- Style marks are easy marks. Format your code like the example.s file we provided, and write good comments.
- Be supercoloming that the Custanticonnies Sotherwise you will lose many marks.
- Every function in RISC-V needs a return statement. At the end of your function's execution, return with the instruction jr ra

### Using CheckMyLab

### Sheck My Lab is a greet resource for testing Tour solution before 1p

- In order to use it:
  - 1 Create a copy of your solution file

  - 2 in this pay file, deteleth ordings commons line
    3 Copy the entire code from the commons file, and paste it near the top of your copied file, where the .include "common.s" line used to be
  - 4 Submit this modified copy of your solution to CheckMyLab
- This Ws convenient test Selection passed or failed, and how they failed
- Note: do not submit this modified copy for marks, as it will not work with the grading scripts

#### **Questions?**

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