Tópicos Especiais Linguagens de Programação: Shell Script

Exercício 9: Estruturas de Fluxo de Repetição

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Questão 1

Letra A

```
#!/bin/bash

for day in Mon Tue Wed Thu Fri Sat Sun; do
  echo -n "$day"
  if [ "$day" == "Sat" -o "$day" == "Sun" ]; then
    echo " (weekend)"
  else
    echo " (weekday)"
  fi
done
```

Saída

Letra B

```bash
#!/bin/bash

count=1
for user in $(cat /etc/passwd | cut -f1 -d":"); do
  echo User "$count": "$user"
  count=$((count+1))
done
```

Saída

```
eusougz@ubuntu:~/Documentos/aula9-scripts$ ./users
User 1: root
User 2: daemon
User 3: bin
User 4: sys
User 5: sync
User 6: games
User 7: man
User 8: lp
User 9: mail
User 10: news
User 11: uucp
User 12: proxy
User 13: www-data
User 14: backup
```

Letra C

```bash
#!/bin/bash

if [ $# -ne 1 ]; then
  echo "Usar: ./dicesfreq [freq]"
  exit 1
elif [ $1 -lt 0 ]; then
  echo "Argumento "$1" deve ser maior que zero."
  exit 1
fi

for (( i=1; i <= $1 ; i++ )); do
  echo "Dice "$i": "$(($RANDOM % 6 + 1))" "
done
```

Saída

```
eusougz@ubuntu:~/Documentos/aula9-scripts$ ./dicesfreq 25
Dice 1: 1
Dice 2: 5
Dice 3: 4
Dice 4: 5
Dice 5: 5
Dice 6: 1
Dice 7: 3
Dice 8: 4
Dice 9: 5
Dice 10: 1
Dice 11: 6
Dice 12: 1
Dice 13: 3
Dice 14: 6
Dice 15: 2
Dice 16: 2
Dice 17: 1
```

Letra D

```bash
#!/bin/bash

maior=$1
menor=$1

for arg; do
  if [ "$arg" -lt "$menor" ]; then
    menor=$arg
  fi
  if [ "$arg" -gt "$maior" ]; then
    maior=$arg
  fi
done

echo "Lower: "$menor""
echo "Higher: "$maior""
```

Saída

```
eusougz@ubuntu:~/Documentos/aula9-scripts$ ./edges 10 7 81 40 74 22 15 21 84 74
Lower: 7
Higher: 84
```

Questão 2

```bash
#!/bin/bash

trap '' 2 20

num1=$(("$RANDOM" % 999 + 1))
num2=$(("$RANDOM" % 999 + 1))

op_code=$(($RANDOM % 2))
if [ $op_code -eq 0 ]; then
  op="+"
elif [ $op_code -eq 1 ]; then
  op="-"
fi

correct_result=$(expr "$num1" "$op" "$num2")

echo "  $num1""
echo ""$op" "$num2""
echo -----

while [[ ! ("$result") || "$correct_result" != "$result" ]]; do
  if [ "$result" ]; then
    echo "Wrong answer"
  fi
  echo -n "?"
  read result
done

echo "Right answer"
```

Saída

Questão 3

```bash
#!/bin/bash

echo "Try to guess the number I thought!"

mynumber=$(($RANDOM %1000 + 1))

echo -n "Choose a number (1 to 1000):"
read guess

until [ $mynumber -eq $guess ]; do
  if [ $mynumber -gt $guess ]; then
    echo "My number is higher than "$guess""
  fi
  if [ $mynumber -lt $guess ]; then
    echo "My number is lower than "$guess""
  fi
  echo -n "Choose a number (1 to 1000): "
  read guess
done

echo "Congratulations, you guessed correctly"
```

Saída

```
eusougz@ubuntu:~/Documentos/aula9-scripts$ ./guess
Try to guess the number I thought!
Choose a number (1 to 1000):1000
My number is lower than 1000
Choose a number (1 to 1000): 1
My number is higher than 1
Choose a number (1 to 1000): 500
My number is lower than 500
Choose a number (1 to 1000): 250
My number is higher than 250
Choose a number (1 to 1000): 375
My number is lower than 375
Choose a number (1 to 1000): 300
My number is lower than 300
Choose a number (1 to 1000): 275
My number is lower than 275
Choose a number (1 to 1000): 267
My number is lower than 267
Choose a number (1 to 1000): 260
My number is lower than 260
Choose a number (1 to 1000): 257
My number is lower than 257
Choose a number (1 to 1000): 254
My number is higher than 254
Choose a number (1 to 1000): 256
Congratulations, you guessed correctly
```

Questão 4

```bash
#!/bin/bash

while read line; do

  words=$(echo $line | sed "s/[^a-z]//g")
  reverse=$(echo $words | rev)

  if [ "$words" = "$reverse" ]; then
    echo Yes
  else
    echo No
  fi
done
```

Saída

```
eusougz@ubuntu:~/Documentos/aula9-scripts$ ./palindrome < input.txt
Yes
Yes
No
No
```